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Address in Obstetrics:

CARCINOMA IN WOMEN, CHIEFLY IN ITS CLINICAL ASPECTS.

Delivered at the Annual Meeting of the British Medical Association at Manchester, July–August, 1902,

By WILLIAM JAPP SINCLAIR, M.D. Aberd.,
PROFESSOR OF OBSTETRICS AND GYNÆCOLOGY IN THE OWENS COLLEGE, MANCHESTER.

Eadem orationis virtus atque unguenti, nam et male affectos nos juvat, et bene habentes oblectat.—DEMOPHILUS.

INTRODUCTORY.

GENTLEMEN,—Looking forward to standing in the position occupied once by such men of mark in their generation as Thomas Radford, Matthews Duncan, and Robert Barnes I am keenly alive to the fact that I do not owe the position, as they did, to a wide reputation and well-earned professional distinction. All the more, perhaps, having resolved to do the best I am capable of in the position, am I deeply grateful to the Council of this Association and to my too indulgent friends and neighbours whom chiefly I have to thank for the great honour conferred upon me.

In ruminating over the limited range of my intimate professional knowledge for a suitable theme for an address I had to keep in mind that the subject must be in the highest degree important in itself in order to be worthy of the occasion; it must be of wide interest in order to arrest the attention of those who are engaged in the practice of obstetric medicine in its widest sense; and it must, if possible, be not a mere professional essay but have some important object and aim. I felt, also, that it would be an advantage to myself in preparing an address if I could discover a subject which had occupied my own thoughts in a special degree in the course of my practical professional work. With such conditions and many others essential to the most modest fulfilment of my task I felt that my undertaking was extremely formidable, but I knew that I could rely upon your forbearance and upon the intrinsic interest of my subject. I have chosen for the subject of my address Carcinoma in Women, chiefly in its Clinical Aspects, that is, very largely from the standpoint of the medical practitioner.

Apology and justification.—It is generally believed that carcinoma of the sexual organs of women is as cancer occurring in men and to this extent, therefore, the subject is not one of obstetric medicine pure and simple. But malignant disease has a tendency to affect certain organs in women to an extent and with a relative frequency unknown in the other sex, and the clinical facts in the typical cases of cancer of the uterus make up a *tout ensemble*, an association of syndromata, a personality of the disease, that distinguish it from the malignant disease of any other organ. Then the frequency of its occurrence, the sex of its victims, and the pitiful character of its course from the social point of view lend it an interest and a pathos almost entirely its own.

If carcinoma of the uterus be the same disease as cancer in general, may not this individuality or personality of the malady make it the key to the situation? The frequency with which the disease occurs in a medical practice, the comparative similarity pervading the cases amidst individual differences, the facility with which operations can be performed and therapeutic agents employed, the possibility of careful clinical investigation and observation of cases in which the disease recurs and of cases immune from recurrence, are all circumstances which attract attention to this special form of malignant disease, render it a comparatively easy subject for inductive reasoning, and therefore make of it perhaps the most promising field for clinical research.

Contrast between pathologists and clinical workers.—We must have observed a tendency to establish a contrast, or at least a certain degree of antithesis, betwixt clinical and scientific work. It was the devotion of the gifts of genius, of the highest intellectual endowments, to clinical investigation which lent dignity to the labours of former generations of physicians and surgeons and made their councils fruitful in conferring permanent benefits upon humanity. Enlightened and patient industry and success in the observation and treatment of disease were the long and tedious, but the only sure, way to professional distinction and honour. But now, since the advent of the modern developments of pathology, and especially of bacteriology, the unknown or misunderstood is accepted as magnificent by the whole medical profession, and a certain distinction can be achieved without much talent or industry; the microtome and the cultivation-tube—though work connected with them often resembles a sad mechanic exercise—have provided a royal road for many men into fields of clinical work which they have not known how to cultivate. They have shirked their apprenticeship to clinical medicine, yet they claim the consideration and emoluments due to the skilled and experienced journeyman.

But while I put in this word of protest against anything that may appear directly or indirectly to derogate from the dignity and from the appreciation of the usefulness of scientific clinical work I claim to hold in as high esteem and admiration as any man can the magnificent intellectual labours of the pioneers and masters of modern pathology and bacteriology. Both clinicians and pathologists require all the mental endowments that Nature confers upon her most favoured in order to investigate the causes of disease and apply the remedies, and there is no room for formal or implied depreciation of the work of either. Still we may institute comparisons.

Pathology and clinical gynæcology.—There is a general and a special aspect of the subject which we may examine in proportions suitable to the occasion: (1) the investigation of the etiology and pathology of cancer in general; and (2) the consideration of cancer of the uterus in particular. The practical gynæcologist may ask, What have investigations and researches into the etiology and pathology of cancer done for clinical gynæcology? The answer must be guarded at this stage at least. A late distinguished gynæcologist once said in his haste that a knowledge of anatomy was positively misleading with regard to the surgery of the pelvis. It can hardly be alleged that pathology has been misleading to the gynæcologist, for he has never trusted to its guidance. "Men are wiser than their creeds"; they hold pious opinions in religion which, fortunately, they never put into practice. They affect to entertain, because they have never questioned, certain theoretical tenets in medical science, but these beliefs do not in any way modify or injure their practice. If we could effectively pass in review the old pathology and the new and estimate their practical results we should, I am convinced, be greatly impressed with the need for clinical gynæcology saving itself by its own scientific clinical work, not by faith in any pathological creed.

THE OLDER PATHOLOGY.

There is such a vast amount of writing on the subject of the etiology and pathology of cancer that in the effort to select typical authorities we are embarrassed, even bewildered. The gynæcologist naturally turns to the authority of the "gynæcology-pathologist," whose investigations and speculations are, at least, marked by the conscientious effort to lead up to something with practical and helpful applications towards the solution of problems which meet him constantly in his professional occupations. If, then, we turn to the publications of the recognised masters who are not only pathologists but have grown old in the constant contribution of the highest practical services to the advancement of obstetrics and gynæcology, and whose example has moulded the opinions and practice of their contemporaries and of a younger generation, we may confidently commence with a concise exposition of the opinions of Hegar. In his recent works on the "Etiology of Malignant Tumours" he modestly refers to the contributions of W. A. Freund and of Czerny as giving him courage to make an attempt at expounding his own views; but when we turn to the writings of these authorities and endeavour to form some clear conception of what they intended to contribute to the sum of our knowledge we cannot help feeling that there is some room for a certain sense of disappointment. Hegar thinks we shall not be so very soon in a position to establish the causes which lead to ordinary carcinoma and sarcoma, yet there is no reason to despair. We have made such progress that "we may soon be able to formulate our questions," thus clearing the ground for future investigators. In endeavouring to grapple with the subject he calls attention to certain respects in which the theories of Thiersch and

Cohnheim, the two most frequently accepted explanations of the genesis of carcinoma, stand in direct opposition to one another.

Thiersch lays chief stress upon the failure of that resistance to the increase of cells which is normally brought to bear by the tissues. He must therefore assume that the ordinary epithelial cells possess a great energy towards proliferation and that this energy is brought into play by a depression of the power of resistance of the tissues. According to Cohnheim such a strong proliferation as is necessary to the formation of the tumour cannot be effected by the cells of the tissues post partum. Only embryonic cells are capable of performing such a task, and it is these which form the basis of malignant tumours when they still remain behind in the body with their energy retained in full. Both authorities leave out of consideration the fact that the cells of a malignant growth increase rapidly but are never completely developed, and the capacity for differentiation on the part of embryonic cells is their most remarkable characteristic.

Keeping this fact in mind some more recent writers on the subject try to reconcile or to evade the differences and difficulties by supplementary theories stated in the language of poetry. Hansemann speaks of an "anaplasia of the cells" by which their energy towards differentiation suffers an injury but their capacity for maintaining a separate existence is increased. Hauser speaks of a "parasitic character," not in the most recently accepted sense. Here the old doctrine comes again into view according to which cancer presents a sort of parasitic growth—*ein Schmarotzer-gewächs*—which gradually devours the host which entertained it. It is "an emancipation of the cells from the laws of physiological life," according to one pathologist; "a sort of anarchy," according to another; or "a riotous proliferation"; and, in the opinion of still another, it is an "unconscious memory of cells and tissues and an attempt to recover their lost independence of action." Whatever felicity of literary expression may be attained in the exposition of these opinions the most of the theories amount to this, that the cell acquires a peculiar energy which it had not before possessed; all of which brings us back to the rapid proliferation, the depression of the powers of resistance, and the decrease in the faculty of differentiation.

We have, then, to establish how these peculiarities come into existence. Hegar has no difficulty in finding some causes which rob the cells of their capacity for arriving at complete development. He discusses many of them—advanced age, purely mechanical influences, interference with general nutrition, the ravages of contagious disease. He touches incidentally upon some of the puerile attempts to generalise from a too limited number and variety of facts, and from the misinterpretation of even these, explanations of the causes of things, such as we generally consider the products of the Age of Faith rather than of the scientific intellect of the nineteenth century.

Hegar's special contribution here is an examination of examples of the growth of epithelium, such as in abnormal growth of hair, even when wasting of the body generally is going on. That there is some sort of relationship between the anomalies of growth and development and the occurrence of tumours, often observed in the same individual, there is no room for doubt. "Energetic proliferation may be associated with depressed differentiation and *vice versâ*." But Hegar does not possess the type of intellect that can harbour illusions with regard to facts, and he admits that of casual relationship between these phenomena and the growth of malignant tumours there is no proof whatever (*"Allein für einen Kausalnexus fehlen alle Beweise."*) The same judgment is brought to bear upon Birch-Hirschfeld's theory of a symbiosis, perhaps the most transcendentally remote from the clinical standpoint and yet probably the progenitor of our newest theories and researches. Symbiosis, to which he refers the origin of cancer, is a sort of fecundation whereby the tissue cell acquires a greater independence and becomes a sort of parasite. The theory assumes the presence of a micro-organism. If this were demonstrated to be present the problem would be solved in the form of a parasitic theory of the purest kind. But all attempts to demonstrate the presence of such an organism have been in vain. We must therefore content ourselves with the alternative theory whereby the tissue cell possesses *a priori* the capacity of increase necessary to the production of malignant tumours. This theory can be supported by many striking facts, such as the wear and tear of epidermis and the restoration of the epithelium of mucous membranes. But, again, all causal-nexus fails; increase of cell growths leads to the formation of hypertrophies and benign tumours, not to carcinoma and sarcoma.

Hegar attempts to bring the theoretical and practical together. As to treatment he concludes that he must confine himself to a few points which arise out of what he has endeavoured to establish concerning causation. Prevent irritation, give special attention to nutrition, keeping in mind individual characteristics, occupation, time of life; prevent infection as far as possible from such diseases as lues and gonorrhœa. But our knowledge of the influence of micro-organisms, and especially of the products of their metabolism, is as yet too defective to enable us to be more precise on the subject of prophylaxis. Finally, he agrees with Czerny and W. A. Freund in their comparative optimism, as also in their warning with regard to surgical treatment, not to be discouraged or to "throw up the sponge" prematurely. His colloquial figure of speech "*Die Flinte nicht zu früh ins Korn zu werfen*" amounts to much the same thing. When we think of the surgical measures in vogue among the younger men in Germany at the present day we can only reflect that there was surely in the history of surgery never a more superfluous exhortation.

To the recent utterance of W. A. Freund, formerly of Strassburg, we turn with a lively expectation of a clear statement of our present position with regard to pathology and for such practical guidance for the future as the long and honourable career filled with the thought and action of an eminently practical man can afford us. Freund also begins with the encouraging description of cases of permanent cure of cancer of the uterus. Still, the remote results of such operations remain unsatisfactory even though we can perform the most radical of operations by clearing out all the female sexual organs from the pelvis without fatal consequence. Wherein lies the cause of failure? Is it in the nature of the disease or in the method of operating? Does the cancer pathology of the present day afford us any sure indication for a rational and prophylactic treatment? Freund proceeds to pass in review the various theories, past and present, which have been formulated regarding the histogenesis, etiology, and clinical features of cancer. He proves that he himself has preserved to a remarkable degree the capacity for criticism as well as for the generous appreciation of the work of younger men. He even quotes Marchand's dictum that the meaningless collective term "carcinoma" is an inherited burden which we still drag along with us. The most recent investigations have shaken, he might have said shattered, the whole blastodermic theory. The general effect of the review is to give the impression that modern German research and experiment have produced a process of iconoclasm. It has pulled down the old and mighty authorities from their seats, and has set no meek ones in their place. The whole situation is summed up somewhat cynically, but unfortunately too truthfully, by one of the disputants. He says: "For us the catchwords 'development from the connective tissue, development from the epithelium,' with which the controversy has been conducted, are devoid of any real meaning"; and he describes himself as the idle spectator at a game of bluff which is conducted on both sides with great zeal for science, but in which only false coin is given and taken by both sides with solemn equanimity. So now the old etiology and pathology of cancer pass away into the limbo of human futilities, holding in their clutch no inconsiderable portion of the new speculations and researches. The late Professor Huxley, in arguing against the continuance in our schools and universities of the old classical education, once said that he could construct a grammar of palæontology which would be more useful than the Greek grammar and fully as efficient for the training of the mental faculties of the young. When we think of the sufferings of successive generations of students of medicine in trying to master the blastodermic theory of malignant neoplasms let us seek comfort in the reflection that at least it has had some of the educative influence of Huxley's Grammar of Palæontology. In an eloquent passage at the close of an admirable address Freund said: "I myself can no longer share in this serious and difficult work. To perform it becomes the task of a younger generation, for whom I wish from my heart success in the conquest of this promised land—the cure of cancer of the uterus. I would be happy if, like Moses, I were permitted to gaze upon it from afar." We can only

sadly reflect that we also might be encouraged and comparatively happy if we could only claim with conviction the right to call it the Promised Land and believe that it will ever be occupied.

THE NEW PATHOLOGY.

It would take us too far away and for too long a time from the clinical consideration of the subject to go into detail on the newer etiology and pathology of cancer in general and the disease as it affects the female sexual organs in particular. But it may be as well for the sake of completeness, and on account of its alleged bearings on the practice of to-day to glance at the chief features of the more recent research and controversy. Is the cause of malignant disease a vegetable parasite or blastomycete, as suggested by Russell 10 or 12 years ago and worked out by San Felice and many others? Are the "cancer bodies" animal parasites?—a theory maintained by Gaylord and supported by much persevering and ingenious observation and experiment. Is it an infectious disease most nearly resembling tubercle and syphilis? or is the cause still entirely unknown or merely guessed at as possibly the result of local or general changes in the nervous system governing the growth, the nutrition, and involution of organs and tissues? It would be impossible within my limits and with the objects in view to discuss all this in detail, but we may glance at the work of one or two individuals and inquire in what relation their results stand to the clinical observation and the treatment of disease.

Leopold of Dresden, after several years of observation and experiment, placed the results of his labours before the profession at the International Congress held at Paris in 1900, and he returned again to the subject at the Congress of German Gynæcologists held at Giessen last year. His conclusions amount to this: that blastomycetes may be the cause of malignant new growths in man; that they may convey the disease by inoculation from man to animals, producing exactly similar new growths which are fatal to the animals affected. Among his experiments Leopold mentions the implantation into a rat of tissue from carcinoma of the ovary. The animal died in 61 days from a tumour of the size of a walnut, which was found to be an adeno-sarcoma. It will thus be seen that Leopold, like some other experimenters, in order to support his conclusions, must give up the distinction between carcinoma and sarcoma. This may be right and a step towards truth and simplicity, or it may have been accepted by the author under stress of circumstances like the poet succumbing to the inexorable demands of rhyme at the expense of the sense; or it may only imply, which is most probable of all and certainly true, that it is not always possible to distinguish between carcinoma and sarcoma by the aid of the microscope alone.

In referring to this subject in a recent discussion, Menge expressed the opinion that such experiments produce merely granulation tissue with giant cells, and he further says: "If Leopold holds to his belief in the specific nature of his cancer-producers he must admit the identity of carcinoma and sarcoma." W. A. Freund's opinion of such experiments may be inferred from his oracular advice, when concluding his appreciation of Leopold's work: "Wait and see" (*Abwarten!*).

With regard to the parasitic theory of cancer some very confident statements as to progress in discovering the causation come to us from America. At the last meeting of the American Gynecological Society one of the speakers gave typical expression to our vague hopes and aspirations. In the course of a paper on Hysterectomy for Uterine Cancer, he said: "Are we not justified in the hope that the so-called parasitic theory of the origin of cancer may evolve something? The solution of the question depends upon the bacteriologist and pathologist. We can but look upon the subject with some seriousness when the great State of New York has considered it of sufficient importance to establish a pathological laboratory for the study of the etiology of cancer. Dr. Gaylord of that institution has reported that he has found the protozoon." During the discussion which followed Dr. Matthew D. Mann, Professor of Gynæcology in the University of Buffalo, said: "I know the profession is not ready yet to accept the evidence of what has been done in Buffalo, but personally I feel quite convinced that in the State Laboratory the cause of cancer has been discovered." Of certain work in support of the yeast theory of the etiology of cancer it has recently been said: "Roncali apparently thinks the *ipse dixit* of enthusiasm is an adequate substitute for the details of a scientific proof." But here is apparently independent evidence from a witness of repute which is bound to arrest attention. Nevertheless, a witness who knows the facts and whose evidence must weigh fully more with us than even the one just quoted—I allude to Senn of Chicago—said even more recently that intra-parenchymatous injections of animals were of no use as a proof of anything, and that the parasitic origin of carcinoma has not been established by experimental research, bacteriological or histological, or by implantations or inoculation experiments. This year we have the report of the Cancer Commission of the Harvard Medical School. It informs us that the work done during the past two years in the study of the etiology of cancer has been wholly negative in its results, in the sense that an increasing doubt has been thrown upon the parasitic origin of the disease and upon the pathological significance of so-called cell inclusions. An opinion is given that the long series of admirably conducted experiments went to show that the search for a cause of cancer has not been furthered, and is not likely to be, by a continued prosecution of research on the lines just mentioned. The Director of the State Laboratory at Buffalo says, on the other hand, that the results of the past year's work have been to strengthen the conviction that cancer is an infectious disease.

A witty Frenchman once said of French politics: "*Plus ça change, plus c'est la même chose*," and the sentiment might not inappropriately be applied to the researches into the etiology and pathology of cancer of the uterus. At the foundation of every hypothesis there is the hope that if only a cause could be discovered a remedy might be found; in the working out of every theory there is a certain amount of observation and research vitiated by some preconception; then a war of opinion, more or less in the nature of an acrimonious logomachy, between rival schools. But "it is the same thing." Even if it were possible to reconcile some contradictions we are not in sight of any causal nexus between the clinical phenomena of the disease and the alleged factors in its production, and still further away from any hint of the bearing on the pathology at present in vogue upon any definite therapeutic measures. No reasonable man will condemn the new pathology: it is a grand monument of the patient and industrious application of the highest scientific imagination and the capacity for research to the solution of a problem. But it has been hitherto as futile as the old. From a thirty years' war of opinion as to the interpretation of phenomena no great pathologist brings home *spolia opima;* we can hardly reckon among our actual acquisitions mere flotsam and jetsam from the troubled sea of controversy. One recent writer says that probably we have reached finality as regards the mere examination and classification of cancerous growths as far as the microtome and microscope are concerned, and further knowledge must be sought for by way of experimental investigations. But on what principles are we to go beyond the experiments already made? We are probably in the position of the German peasant who on seeing a railway train for the first time exclaimed in amazement: "*Es müssen doch Pferde darin sein*" (But after all there must be horses in it). Let us hope we have also in store for us the surprise of seeing the application of some genuinely novel principles and methods to the elucidation of this dark problem.

MISCELLANEOUS THEORIES.

But the more sanguine may think it worth while to inquire if there is not some room for hope in the further development of theories concerning individual causes. If you can find an individual cause or group of causes then the solution is simple—remove the cause. If the cancer is produced by eating too much animal food, abstain, and you are safe. If the cause of the malignant tumour be the included epiblast or a group of mysterious parasites which you entertain involuntarily, like keeping an inaccessible case of dynamite in your cellar, ignorance would be bliss; but if it is caused by the prodigal consumption of chloride of sodium the sooner you know and give effect to your knowledge the better. After the admirably-reasoned argument of Dr. J. F. Payne in a recent discussion on carcinoma we shall probably hear comparatively little in the future, at least in this country, of the vague statements on the influence of woods and river courses in producing cancer. This much may be said, while admitting that there is room for a rational attempt to get at the real import of "cancer localities."

The recent suggestion that the arsenic which we all take into our systems, voluntarily or otherwise, may be a contributory cause to the increase of cancer is at least startling.

It used to be considered the one drug that had some specific effect as a cure and it was the sheet anchor of the cancer quacks. But strange vicissitudes occur in the history of unfounded hypotheses. A century ago osteomalacia was believed to be the cause of certain death after Cæsarean section; nowadays the operation, as modified by Porro, is the certain cure for osteomalacia. But it is useless to pursue this line of argument; I believe we are right in assuming that there is no hope for the solution of the cancer problem in any of the theories of individual causes hitherto advanced. There is a parity of reasoning in the support of many of them with Burns's explanation of the causation of certain great qualities in Scotsmen: "Tell me whisky's name in Greek, I'll tell the reason."

CANCER OF THE UTERUS NOT AS A GROWTH BUT AS A DISEASE.

We search, then, in vain through the recent manuals of gynæcology, and even of pathology and the records of pathological investigation, for any hint of progress in the evolution of an etiology of malignant disease of the internal sexual organs of women. Of histology there is enough and to spare, but of pathology in the narrower sense there is little to arrest attention, much less to satisfy; and there is absolutely nothing to indicate an advance from the position of a former generation of pathologists. The nomenclature is new; the thoughts and principles are old. There would, in fact, be a certain amount of truth in the allegation that the diligent pursuit of the histology of malignant growths and other tumours has distracted the attention, the activities, and the energy, to say nothing of the intellectual force, which might have led to a true pathology of cancer of the uterus by fixing the attention upon structure, growth, and extension in relation to clinical phenomena. We have heard too much of cancer as neoplasm, too little of it as a disease. If, now, we set aside all considerations of the etiology and pathology of cancer of the uterus and keep in mind only the clinical aspects of the disease, we see much ground for congratulation on the achievements of the last quarter of a century. The clinical work has been wholly surgical. What is not surgical is futile—it is hardly knowledge.

What has been accomplished?—It is nearly 30 years since, as house surgeon to a gynæcologist of great local repute, I had every opportunity of observing the treatment of cancer of the uterus, a disease which when a student I had never once seen diagnosed by a clinical teacher. The routine method was to clear away some of the débris of tissue from the invaded portion of the cervix and apply a liquid which had at the time a more general application in the treatment of certain diseases of the skin. The treatment was painful, and that was all. No patient was kept in the hospital to die, and I need hardly say that no one received appreciable benefit. Next came the period of bromum and other specifics equally futile.

A few years later I had the opportunity of witnessing the operations by the galvanic écraseur of the late Professor Carl Braun von Fernwald in the Vienna General Hospital. He obtained a wonderful degree of success in arresting for years, and sometimes permanently, the progress of the disease by removing the vaginal portion of the uterus when that was the only part involved. Next Schroeder of Berlin practised and advocated the supra-vaginal amputation of the cervix. The practice has been continued to the present time by some of Schroeder's pupils, notably by Hofmeier and Winter.

Next came the period of progress with the operation of total extirpation. Many hesitated to attempt it owing to the immediate danger. But the technique rapidly improved and it soon became the generally accepted operation, because it afforded the best grounds for hope of conferring prolonged benefit or of definitely curing the patient. Whatever we may think of the remote results of our surgical work no one who knows the history can deny that the reduction in the immediate mortality from this operation marks one of the greatest triumphs of modern surgery.

Vaginal hysterectomy, when the disease is confined to the uterus, is not now more dangerous than is an ordinary ovariotomy. The mortality, which at one time was over 30 per cent., has now sunk to 3 or 5 or 7 per cent., according to the extent of the disease and the concomitant complications or derangements of health. In recent years there has been a wave of mental depression passing over the gynæcological world on account of the unfavourable remote results of vaginal hysterectomy for cancer, and the most optimistic will admit that there has not been much ground for exultation. At a recent congress of American gynæcologists one of the eminent members said: "There are some men who claim for total extirpation of the uterus the happiest results. ..... Other men have looked upon the matter with utter hopelessness. ..... I am sorry to say that I have brought myself among the latter class from bitter experience." Hofmeier at the last Congress of German Gynæcologists declared that the present professional opinion and practice amounted to a declaration of "bankruptcy" of the radical vaginal operation as practised for the last 15 years. Of this statement Fritsch remarked: "It has been said that we have gone bankrupt with our vaginal total extirpation, and that its place must be entirely occupied by the abdominal method, and this has been said about an operation from which better results have been obtained than from any other cancer operation whatever." But so far from the pessimistic view being the true one the results obtained by many of the best-known operators continue to improve and to give the greatest encouragement to continued efforts in the future. They are obtaining better immediate results and the number of "cures" increases—that is, the percentage of immunity for at least five years after operation becomes greater. The percentage of cases operable when first seen also increases because the patients come earlier for treatment and improvements in technique have extended the indications. The proof of all this lies in the statistics of carefully reported work done under circumstances in which the sources of error are reduced to the minimum. We may select examples from every country in Christendom, which now includes America, and the lessons taught by all are the same.

Von Ott of St. Petersburg gave the figures for Russia in the Section of Gynæcology at Paris two years ago. He mentioned 1000 cases of the radical vaginal operation, with a mortality of 10 per cent. for the work of many operators. Von Ott himself had performed 189 operations with a mortality of 1·6 per cent. For his own statistics he had experience of six years of freedom from recurrence, equal to 29 per cent. of cures, according to the conventional method of reckoning. He had known cases of permanent immunity from recurrence which appeared to be hopeless before operation. Olshausen of Berlin operates now in 50 per cent. of all cases, instead of in 31 per cent. as formerly. Recurrence is not uncommon between three and seven years after operation, but very rare afterwards. In 671 cases operated upon in the course of nine years the mortality was 6 per cent. In the last six years, between 3 and 4 per cent. In the last three years there were 291 cases with a mortality of 5 per cent. As to recurrence, over 36 per cent. of the cases were free after five years; after two years free from recurrence, 74 per cent.; after three years, 62·6 per cent.; after five years, 38·8 per cent. Zweifel of Leipsic now operates on 50 per cent. of all cases presenting themselves for treatment. Formerly he could operate on only 27 per cent. He considers the 27 per cent. of Leipsic a low figure compared with Berlin. Zweifel in the course of four years performed 219 vaginal operations with a mortality of 5·48 per cent. Chrobak, in Vienna, operated in 213 cases with a mortality of 5·6 per cent. The proportion of operable cases increased from 15 to 29 per cent. The percentage free from recurrence after five years was 34·6. In Schauta's clinic in Vienna 273 operations were performed. The mortality for the vaginal operation was 10 per cent., for the abdominal operation 60 per cent. The mortality in uncomplicated cases operated on by the vaginal method was 4·6 per cent. Of these patients 36 per cent. were permanently cured. When the cancer extended beyond the uterus the primary mortality was 23 per cent. and the permanent cures were 7 per cent. Reipen gives the figures for Halle. The operators were Kaltenbach and Fehling. There were 303 cases and the operation mortality was 6·6 per cent. There was no recurrence within five years in 25 per cent. of the cases. In carcinoma of the body of the uterus alone there was no recurrence in 75 per cent. Cullen in America had no recurrence in 66 per cent. of cases of cancer of the body. In 73 cases of cancer of the cervix he had 20 per cent. of non-recurrence. Kelly of Baltimore had had 63 per cent. of freedom from recurrence after six years in cancer of the body; in his cases of carcinoma of the cervix there was immunity from recurrence for from three to six years in 28 per cent. Kelly offers his testimony as to freedom of the pelvic glands from infection when the disease is confined to the uterus and therefore operable in the first degree. Hense gives remarkable evidence as to the influence of the climacteric in preserving from recurrence. In 73 cases of

post-climacteric operation there was permanent freedom from recurrence in 50 per cent. Winter reports from Berlin 308 operations with a mortality of 50 per cent. Recurrence took place in nearly 70 within five years, and there were nearly 30 per cent. of permanent cures. Of the cases in which the operation could be effected in sound tissue the proportion of cures was 33 per cent. Winter remarks on the frequency of recurrence in the cicatrix. As representatives of Italy we may quote Spinelli and Mangiagalli. The former reports 41 operations with a primary mortality of 2·4 per cent., but the "cures" were only 8·9 per cent. Mangiagalli had 127 cases with a mortality of 8·6. Only 17 patients were free from recurrence after three years. In his cases recurrence was *always* in the cicatrix. In this country Lewers traced the history of 40 cases operated on radically per vaginam with a primary mortality of 7 per cent. There was freedom from recurrence in 27·5 per cent. from two to seven years. In 11 cases of cancer of the body five of the patients were well from four to seven years after operation.

These illustrations of work done might be multiplied to an indefinite extent, but enough has been set down to support the statement that there is ground for encouragement, not for depression, much less for despair, in the recent history of vaginal hysterectomy for cancer. Each story from which the bare figures have been culled contains its own lessons and its message of hope, encouraging us to persevere in the course on which we have entered. At the first glance there may appear to be but cold comfort in the figures, but we should remember that every woman "cured" in even the conventional sense has been saved from a lingering and painful death. To our resources that will enhance the value of surgical interference in the future there has been in recent years no more valuable contribution than the improvement in technique introduced by the late Professor Schuchardt of Stettin. The most remarkable figures of all are those given by Schuchardt as the results of the paravaginal operation. The best results before were those of Leopold in Dresden, who with an operability of 20·4 per cent. had 50 per cent. of conventional "cures." Schuchardt raised the operability to 61 per cent. and had conventional cures to the extent of 40 per cent. In easy cases he had the astonishing result of 80 per cent. of cures.

Reaction.—One of the results of the depression arising from the recognition of the unfavourable remote results of vaginal hysterectomy has been a rush, especially in Germany, to the extreme verge of the practical in dissecting out not only the internal sexual organs but the whole of the lymphatics and cellular tissue of the pelvis. This has been declared to be justified by the belief that better remote results would be obtained than by vaginal hysterectomy.

From a careful and laborious attempt to keep up with the record of proceedings I have no hesitation in saying that a large portion of the extended radical abdominal hysterectomies for cancer are homicidal vivisections which nothing hitherto advanced in their support appears to palliate, much less to justify. Most of the cases recorded have been too far advanced for any operation however radical. "The radical nature of these operations," says one German critic, "is expressed only in the sad immediate and remote results, a high primary mortality, and injuries to the ureters and bladder in those who survive for a time." The operators profess to dissect out the pelvic lymphatic glands, iliac, hypogastric, sacral, inguinal, lumbar; and they resect the ureters and reimplant them in the bladder when they interfere with the scope of their proceedings. The immediate mortality is terrific, but then, as Jacobs said at Amsterdam, "the operation mortality is no longer an argument capable of arresting our efforts," and so far as experience of the remoter results has ripened for guiding inference all admit that the patients who escape with their lives from the operations, occasionally reckoning only the possession of a permanent urinary fistula or the loss of a kidney among the consequences, are no better off in relation to recurrence than are those who have undergone the comparatively safe operation of radical vaginal extirpation.

There appears at the present time to be no visible limit to operations for cancer in the judgment of some of our contemporaries. The title of one very recent contribution to a gynæcological journal must suffice for calling attention to "*Fortschritt*" in the direction of vivisection: "Simultaneous occurrence of cancer of the uterus and of the stomach—abdominal total extirpation of the uterus, gastrectomy with gastro-jejunostomy." This operative work all at one sitting.

THE FUTURE OF TREATMENT AND THE AIMS OF CLINICAL RESEARCH.

From all that has been said it must be obvious to those who care to listen to opinions of mine that I firmly believe the presently existing pessimism is not justified by the facts, that there is much reason for encouragement to greater efforts in the future, and that our hopes must rest on early vaginal operation, not on the so-called extended radical abdominal sections. We may look forward to the future with a certain degree of confidence that considerable achievements are still before us, even though the pathologists do not succeed in working out a theory of the causation with practical applications to therapeutics. In saying so I do not profess to assume the functions of the prophet. We can all enlighten the present on subjects which are the chief interest of our lives, and any real insight into the present is bound to shed some light on the immediate future by the ordinary process of cautious inference. Among the preliminary considerations which call for attention comes the question: Is cancer of the uterus on the increase? My own firm conviction for a long time has been that it is not, in spite of all allegations to the contrary.

The late Sir Spencer Wells in the Morton Lectures of 1888 gave rather an alarmist account of our prospects, but we must all welcome with a sense of relief the recent statement of Dr. Tatham at the Chelsea Clinical Society. According to Dr. Tatham cancer in women is not increasing at the same rate as is cancer in men. The increase in men and women respectively was in 1891–1900 as 147 to 74. There is not time to argue the matter out, but it seems reasonable to attribute the disparity of increase to a considerable diminution in the extent of cancer of the uterus and mamma. All this is especially reassuring when we remember that the disease is now almost always diagnosed, at least in its later stages, whereas in former times it was in many cases overlooked even when it was about to produce, or had produced, a fatal result. For example, if we keep in mind the cases in which there was little ulceration and much infiltration producing occlusions of the ureters and fatal uræmic convulsions, cases of early peritonitis and other complications, we must believe that the more general capacity for correct diagnosis has added considerably to the apparent increase of malignant disease in women.

If, as I firmly believe, cancer of the cervix is a different disease from cancer of the body, and is a *morbus miseriæ* like osteomalacia, leprosy, and pellagra, it is bound to decrease as the social condition, the physical well-being, the freedom from worries, and the consequent comparative happiness of the people improve and become more general, if not universal.

Cancer of the cervix uteri occurs almost exclusively among the poor, the chronically overworked and underfed—among poor prolific women, harassed, worried, drained by lactation, and reposeless. That fissures of the cervix, neglected lacerations, tissue changes in the cervix from flexions, irritations from venereal diseases, remnants of puerperal sepsis affect the cervix, I have myself no doubt whatever. There is no time to argue the question, but each expression here used embodies an opinion and has the foundations of a thesis which I am prepared to maintain and defend. But we cannot afford to remain supine and inactive while the process of evolution is going on. We have seen disease eradicated in this country by social legislation—for example, mollities ossium; but no legislation that we can foresee will relieve our fellow-countrywomen from the physical effects and the cares of large families, or save them from the consequences of their own negligence and from marital cruelty and selfish indulgences.

Our hopes of immediate amelioration rest therefore on surgery.—We must rely not on the extension of operative procedures into the brilliance of vivisections, but on the united efforts of all concerned to bring the cases under surgical treatment at the earliest possible stage. We labour at present under considerable disabilities.

I. The patients are not so well trained and disciplined as German and other women in continental Europe. They naturally hesitate when they think of going to a medical man to tell of their symptoms and they neglect the most ominous symptoms with a light heart because they suffer no pain. The consequence is that as a rule our cancer patients consult the medical practitioner when it is clearly too late to do any operation justifying the hope of cure or even

prolonged immunity, and in many cases advice is sought for the first time only when it is almost too late to palliate.

2. This is clearly the most important of the many diseases regarding which the interests of the general practitioner in the subject and his influence with his patients are our chief ground for hope of ameliorations. To him the patient first appeals and consequently on him depends whether steps shall be taken promptly or otherwise to bring the best resources of medical science to bear on the individual case. If I might venture a criticism, my own experience would suggest that all are not sufficiently insistent on physical examination even when there is *primâ facie* evidence that the cause of the symptoms is malignant disease. It is a painful fact and food for humble reflection that we still see presenting themselves at our hospitals poor women who have been under medical treatment for a considerable time without an examination being suggested to them, even although the first symptoms which they mention, and their age, and the appearance which they present should at once suggest the presence of cancer.

3. Among the causes which lead to late diagnoses of malignant disease of the uterus—partly by leading the patients to present themselves late and partly to the postponement of examination—is the prevalent superstition with regard to a "climacteric hæmorrhage." I have no hesitation in saying with entire conviction that "climacteric hæmorrhage" is, like the collective term "cancer," one of the inherited burdens which we drag along with us to our hindrance and grievous detriment. Apart from pathological conditions usually diagnosable there is no such phenomenon in nature.

4. Another popular delusion which stands in the way of early diagnosis of cancer of the uterus is the belief that pain is an invariable symptom of cancer. When the sufferer from cancer begins to complain of pain we all know now that the disease is too far advanced for radical treatment. The question naturally arises, How is this universal ignorance to be dissipated? If our patients only knew what symptoms were suspicious the fear of death would overcome the natural shrinking from examination and the medical adviser would be taken early into confidence.

The nature of the subject precludes popularising of knowledge by ordinary methods, but a great deal more might be done by the means now available. Dr. Lewers makes a helpful suggestion in the *Practitioner* for June that a cancer research commission might be the agency of diffusing knowledge of the subject through nurses, district visitors, sanitary associations, and others who come into intimate relations with the more ignorant and poorer classes of the community.

As far as the medical profession is concerned the chief difficulty in the way of obtaining better results by early operation is that of early diagnosis. Anyone engaged in the practice of the medical profession should have no difficulty in diagnosing cancer of the uterus when a cavity has formed or the patient is suffering from one of the hypertrophic forms of epithelioma of the cervix. But there are cases in which there is real difficulty in establishing early diagnosis of uterine cancer. Now it is mere mockery and the suggestion of utter impracticability to tell a busy medical practitioner to snip bits off the affected part and to subject them to microscopic examination. The busiest men see the most cases and therefore are least able to follow the advice. There are the various clinical research societies, of the assistance of which a small minority take advantage, but they cannot be expected to supply the wants of the whole profession like a clinical test of easy application.

And then we must keep in mind that it is easy to place too great reliance on mere microscopic diagnosis. It is, for example, impossible to diagnose between benign adenoma of the corpus uteri and the malignant form of the disease by means of the microscope alone; the distinction is purely clinical. And those who hold strongly, as I do, that the finer clinical points are constantly overlooked because of the air of scientific accuracy which the masters of the microtome assume will not readily forget the history of the discussion on the claims of the total extirpation of the uterus as against any partial operation. Certain young "gynæcologist-pathologists" in Germany at one time discovered that in carcinoma of the cervix the mucosa of the body of the uterus underwent a sarcomatous degeneration, and as usual they published their observations to all the world. Immediately the same curious phenomenon, *a priori* improbable as it was, was observed in every *Frauenklinik* in Germany, and the scientific proof of the futility of partial extirpation was established! We never hear of that sarcomatous degeneration now, for it was soon proved beyond cavil to be the result of a purely inflammatory process. Syphilitic tumours have been described as microscopically indistinguishable from large-celled sarcoma, and tuberculous growths have also been mistaken for malignant disease.

How then can early diagnosis of carcinoma of the cervix be established clinically? I would once more suggest the value of friability of tissue as pathognomonic in this particular phase of malignant growth. The presence of friable tissue in the cervix uteri indicates the existence of disease which is clinically malignant whatever the microscope may say.

With goodwill and general interest in the subject and by early diagnosis it should not be difficult to bring the proportion of operable cases seen in this country to something approaching that of Germany. Success even so far would mean the saving of many lives and a great reduction in the amount of human misery. What the proportion of operable to inoperable cases of cancer of the uterus when first seen in this country generally may be we do not clearly know. I do not think there have been sufficient observations published to enable us to form a conclusion. At the Southern Hospital here a careful inquiry into the figures of the last 10 years made by the present house surgeon, Dr. A. M. Mitchell, shows the proportion to be about 22 per cent. Dr. Munro Kerr has been kind enough to make inquiries with regard to the subject in Glasgow and he tells me that out of 118 consecutive cases seen at the Western Infirmary there were 98 found to be inoperable—that is to say, 18 per cent. of operable cases. At our Christie Hospital here operable cases are seldom seen, but the circumstances are exceptional and palliation must be the recognised treatment. German gynæcologists have succeeded in raising the proportion of operable cases from as low as the figures I have just quoted to over 20, over 30, and now in some clinics, such as Olshausen's, to 50 per cent., and Schuchardt reached the extraordinary figure of 61 per cent. With such examples before us it would surely be criminal folly to despair of equal or greater progress among ourselves. And, indeed, suggestive and encouraging signs are not wanting of aroused attention and interest in the promptness with which cases are now being submitted to operation compared with even the recent past.

What has been implied in all that I have said I now wish to state explicitly for what it is worth. It is my firm conviction that the secret of cancer in general will be discovered, if ever, by the study of carcinoma of the uterus, and that the means will be exact clinical observation, followed, perhaps, and corroborated, by experimental research.

The microtome and the cultivation tube and experimental implanation have had their day; they need not cease to be, but they should find their proper place in our system of investigation. We may get at the causes of malignant disease, as far as we understand the causes of things, by exact clinical observation; but the specific remedy or the system of therapeutics will come, in all probability, as a stroke of empiricism from an individual working for the sake of knowledge and for the good of humanity. It might be argued that the pathology and serum treatment of tuberculous disease and diphtheria are examples to the contrary, but there appears to be hardly any analogy between the genuinely infectious diseases and the phenomena of cancer.

Cancer is infectious to the individual already affected with cancer, but to no other. The phenomena of rapid recurrence in the cicatrix after operation, owing to contact of the fresh wound with cancerous matter, points to an early cancerous condition of the system, an entirely different matter from the late cancerous cachexia. This fact, established clinically, has received too little notice.

APPLICATION OF LOGICAL METHODS.

If we are ever to arrive at the causation of carcinoma of the uterus we must reach it by the rigid application of logical methods of induction to clinical work. We are already in possession of certain facts established clinically with regard to cancer of the body and cancer of the cervix and the extent to which they are dissimilar. We might begin our collective investigations with carcinoma of the cervix. It is a diseased condition with antecedents and characteristics almost entirely its own. Its characters fit it

specially for clinical observation and the application of logical methods of induction.

"If two or more instances of a phenomenon under investigation have only one circumstance in common, that circumstance is the cause of the phenomenon." The application of this Method of Agreement would require very patient note-taking, according to a rubric containing every antecedent circumstance which has ever been suggested as the cause or connected with the cause of the disease. But "genius is the faculty of taking infinite pains." After a time it would be seen what was the invariable antecedent, if any, in every case. If there was no invariable antecedent of the phenomena of the disease over a considerable series of cases, then the rubric would have to be strengthened by new possible antecedents, while the obviously irrelevant could be abandoned. By the antecedent circumstances I mean such facts as heredity, previous illnesses, especially contagious diseases, social circumstances, marriage, child-bearing, puerperal ailments, lactation, menstruation, and an indefinite variety of others. One of the earliest results of this method would probably be the differentiation of the varieties of malignant disease of the uterus, just as clinical work alone established the differences between the fevers in the past. We would learn which clinical varieties produced early lymphatic invasion, which most readily recurred, where the recurrences commenced, and how the last state of the operation case after recurrence compared with the case in which the disease had been allowed to run its course unaffected by treatment. Facts would be proved, fables dissipated. Conclusions formed would become opinions, not mere individual impressions.

CONCLUSION.

Running through all I have said and implied in some apparent digressions has been an effort to attract attention (as far as anything I may say can do so) to the dignity and the effectiveness of exact scientific clinical methods of observation. To attain my object it seemed necessary to call specific attention to the futility of much of the labours of the past undertaken in order to establish the etiology and true pathology of cancer. All honest and enlightened human effort should be welcomed; I depreciate none. But chiefly is my hope fixed on the fact that in such research as I have been suggesting every member of the medical profession engaged in general practice could coöperate in genuinely scientific work with those whose daily occupation was of a special character. The work of both sets of workers would be complementary. The specialists should have more time as a rule to devote to such work and naturally they have the particular disease more in their minds. The medical practitioner knows most about the history and environment of the individual patient and can obtain relevant information from which the hospital physician is excluded.

I shall not parody the language of the great German authority upon whom I have so largely drawn and speak of a Promised Land; I shall content myself with saying that my earnest hope and desire is this—that some of our younger men, with more energy, better opportunities, starting on a higher level of knowledge, will professedly take up this great enterprise and see whether by calm, industrious, and enlightened clinical observation, alone or collectively, they can discover the cause and the remedy for this mysterious and dreadful malady.

ON THE

ACETONE SERIES OF PRODUCTS IN CONNEXION WITH DIABETIC COMA.

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(Concluded from p. 209.)

THE cases which I have referred to have supplied illustrations of the effect of treatment in carrying the condition back from the double to the simple form. Looking at all the circumstances before us it is only reasonable to expect that the abnormality induced by the constant passage of sugar in large quantity through the system is likely to favour the progress of the disease into the more advanced form, and conversely that the removal or diminution of the abnormality is likely to exert an influence tending to operate in an opposite direction. In the cases which I have considered we have started with the presence of the acetone series and have seen the result that may follow. I will now pass to the consideration of cases in which the products in question have been absent before beginning the treatment and show the result that may attend the transition from a diet containing carbohydrate to one from which it is excluded.

The usual effect, I think I may say, that may be looked for is that a certain amount of the products is thrown into the urine. The amount, however, is not what can be called large and with the progress of time it tends to grow gradually less and finally to disappear. In young subjects the products seem to hold on more tenaciously than in subjects of more advanced years. The following may be given as illustrative cases.

CASE 8.—This was a male patient, aged 47 years. At his first visit on Sept. 17th, 1901, the report ran: Sugar, 62 per 1000; and diacetic acid, 0. On Sept. 20th, as a result of the restricted diet, the sugar had become reduced to 22 per 1000 and the diacetic acid had appeared to the extent of ++. Oct. 4th: Sugar, trace; and diacetic acid, 0.

CASE 9.—This patient, aged 51 years, had been the subject of diabetes for four and a half years. He had just arrived from India and latterly, from the difficulty in dieting whilst travelling, had not been giving the attention to food that he had done formerly. He was first seen on May 23rd, 1902, when the sugar stood at 83 per 1000; and diacetic acid, 0. May 26th: Sugar, 20 per 1000; diacetic acid, +; and acetone, +. 28th: Sugar, 13 per 1000; diacetic acid, +; and acetone, +. June 11th: Sugar, 10 per 1000; and diacetic acid, 0. 24th: Sugar, 6 per 1000; diacetic acid, 0; and acetone, 0. July 8th: Sugar, trace; diacetic acid, 0; and acetone, 0. July 22nd: Sugar, 0; diacetic acid, 0; and acetone, 0.

CASE 10.—The patient, aged 56 years, had recently become the subject of diabetes. June 21st, 1902: Sugar, 55 per 1000; and diacetic acid, 0. 23rd: Sugar, 10 per 1000; diacetic acid, +; and acetone, +. 25th: Sugar, 0; diacetic acid, +; and acetone, +. July 5th: Sugar, 0; diacetic acid, +; and acetone, ++. 10th: Sugar, 0; diacetic acid, +; and acetone, +. 22nd: Sugar, 0; diacetic acid, 0; and acetone, +.

CASE 11.—In this case diabetes had existed for five months. The patient was 55 years of age and was first seen by me on June 15th, 1900. He was at the time upon a partially restricted diet and the sugar stood at 29 per 1000; and diacetic acid, 0. July 6th: Sugar, 0; and diacetic acid, +. August 17th: Sugar, 0; and diacetic acid, 0.

CASE 12.—The patient, aged 64 years, was first seen on March 7th, 1902. Sugar had been recognised in his urine in 1896. He latterly had been relaxing his diet. Marked neuritis existed. Sugar, 27 per 1000; and diacetic acid, 0. March 27th: Sugar, 10 per 1000; and diacetic acid, +. June 6th: Sugar, 0; and diacetic acid, 0.

The following two cases are of boys in the urine of whom a persistence is shown of the acetone products, notwithstanding the absence of sugar for a considerable time. It is not to be taken that it invariably happens with children in this way.

CASE 13.—The patient, aged eight years, was first seen on Nov. 15th, 1899. A sharp onset of thirst had occurred eight days previously and sugar in the urine had just been recognised. Sugar, by copper reduction, 77·7 per 1000; by polarimeter, 77·3 per 1000; diacetic acid, +; and albumin, 0. The disease had only just set in and the presence of sugar, was almost the only abnormality presented by the urine. There was no oxybutyric acid and only a little diacetic acid. The patient was placed immediately on the strict diet and for Dec. 7th the report runs as follows: Sugar by copper reduction, 0; polarimetric indication expressed in terms of dextrose, −4·6 per 1000; and diacetic acid, +++. Thus a levorotatory power to the extent named now existed and there was a large quantity of diacetic acid. On Jan. 4th, 1900, the report ran almost the same: Sugar, 0; polarimeter, −4·3 per 1000; and diacetic acid, +++. The boy had risen in weight from four stones and four and a half pounds to four stones and 10½ pounds between Dec. 7th and Jan. 4th. On March 1st the report was practically the same. On the 22nd with a continued absence of sugar the levorotation had become reduced to −2·1 per 1000 and the diacetic acid to ++. June 27th: Sugar, 0; polarimeter, −2·9 per 1000; and diacetic acid, +. Oct. 4th: Sugar, 0; polarimeter, −1·7 per 1000; and diacetic acid, +. Dec. 19th: Sugar, 0; polarimeter, 1·4 per 1000; and diacetic acid, +. Feb. 15th,

1901: Sugar, 0; polarimeter, −1·8 per 1000; and diacetic acid, 0. This constituted the maximum of improvement attained and from this time retrogression occurred. For March 12th the report ran: Sugar, by copper reduction, 37 per 1000; by polarimeter, 28 per 1000; and diacetic acid, ++. A loss of one pound in weight had taken place during the last week. June 4th: Sugar, by copper reduction, 46 per 1000; by polarimeter, 32 per 1000; and diacetic acid, +++. The patient now rapidly lost ground and died in a comatose state in September.

CASE 14.—This patient was also eight years of age when first seen on Jan. 25th, 1902. He was of an exceedingly high-strung nerve organisation. Some increased flow of urine had been noticed at the end of November, but the condition afterwards fluctuated and it was not until the middle of January that it received serious attention. From this time urgent thirst, polyuria, and emaciation attended with weakness set in. The examination of the urine on the 25th revealed the following condition: Sugar, by copper reduction, 71 per 1000; by polarimeter 60 per 1000; diacetic acid, +++; and acetone, ++. The patient was put upon the restricted diet with the exception of the allowance for a few days only of about a pint of ordinary, instead of sugar-free, milk per diem. Jan. 30th: Sugar, by copper reduction, 59 per 1000; by polarimeter, 46 per 1000; diacetic acid, +++; and acetone, ++. Feb. 6th: Sugar, by copper reduction, 46 per 1000; by polarimeter, 36 per 1000; diacetic acid, +++; and acetone, ++. 13th: Sugar, by copper reduction, 26 per 1000; by polarimeter, 23 per 1000; diacetic acid, +; and acetone, +. The weight last September was four stones and two pounds; on Jan. 23rd it had fallen to three stones and six pounds; on Feb. 6th it was three stones and 10 pounds, on the 7th three stones and 10½ pounds, and on the 13th three stones and 11¼ pounds. Feb. 20th: Sugar, 0; diacetic acid, +; and acetone, +. 27th: Sugar, 0; polarimeter, −0·6 per 1000; diacetic acid, +; and acetone, +. On the 23rd the patient had a bad attack of sickness from which he had since recovered. March 6th: Sugar, 0; polarimeter, −1·6 per 1000; diacetic acid, ++; and acetone, +. The patient's weight on this date was three stones and 13¼ pounds. March 20th: Sugar, 0; polarimeter, −1·8 per 1000; diacetic acid, +; and acetone, +. April 10th: Sugar, 0; polarimeter, −5·7 per 1000; diacetic acid, ++; and acetone, ++. May 8th: Sugar, 0; polarimeter, −3·6 per 1000; diacetic acid, ++; and acetone, ++. The weight of the patient had reached four stones and four pounds. On May 26th it was found that the patient had contracted whooping-cough and he had lost one and a half pounds in weight. Sugar 0; polarimeter, −3·9 per 1000; diacetic acid, + +; and acetone, + +. On June 24th the whooping-cough was better. The loss of weight, which on June 11th amounted to three pounds, was now being recovered, and the weight stood at four stones and two pounds. Sugar, 0; polarimeter, −4·3 per 1000; diacetic acid, + +; and acetone, + +. The last entry is for July 24th and stands as follows: Sugar, 0; polarimeter, −1·5 per 1000; diacetic acid, 0; and acetone, +.

In the above case a riotous upset of metabolism had occurred. The chemistry of life had fallen into a highly perverted order of procedure. By bringing the system into a more natural state through the removal of the sugar things have for the time almost righted themselves and health so far has become re-established, the boy to outward appearances being as well as at any time in his life. The age, however, is the baneful point on giving heed to the future.

In opposition to the effect of restriction from carbohydrate food that has been noted, cases are frequently occurring in which the sugar disappears without evidence being presented of the products of the acetone series being developed. One example of this line of case will suffice for illustration.

CASE 15.—The patient, aged 58 years, was first seen on June 24th, 1902. Sugar had been recognised in his urine four years previously. Latterly his symptoms had grown worse and he had become anxious about himself. He was on a partially restricted diet, partaking of starchy food under the form of brown bread and toast. His urine contained 50 per 1000 of sugar and gave no reaction with the ferric chloride test for diacetic acid. On June 28th, four days after commencing the restricted diet, the sugar had become reduced to 13 per 1000 and diacetic acid was absent. July 5th: Sugar, 5 per 1000; and diacetic acid, 0. 12th: Sugar, trace; and diacetic acid, 0. 26th: Sugar, trace; and diacetic acid, 0.

The acetone series may become present in the urine of the diabetic as a result of the supervention of some other disorder and subsequently disappear. The following three cases represent instances of the kind.

CASE 16.—Pneumonia was in this case the disorder that supervened. The patient first came under my observation in February, 1899. She was then 60 years of age. At the first interview the sugar amounted to 55 per 1000, but under treatment it soon disappeared, and later six ounces of ordinary bread per diem could be taken without leading to the passage of sugar. The urine gave no reaction with the ferric chloride test for diacetic acid. In the early part of November, 1900, the patient took a chill which resulted in the development of pneumonia. On Nov. 10th the condition of the urine was as follows: Sugar by copper reduction and by polarimeter, 33 per 1000; diacetic acid, +; and a trace of albumin and granular and hyaline tube casts. 12th: Sugar by copper reduction, 48 per 1000; by polarimeter, 39 per 1000; and diacetic acid, ++. 13th: Sugar by copper reduction, 43 per 1000; by polarimeter, 36 per 1000; and diacetic acid, +++. 14th: Sugar by copper reduction, 27 per 1000; by polarimeter, 21 per 1000; and diacetic acid, ++. 15th: Sugar by copper reduction, 21 per 1000; by polarimeter, 19 per 1000; and diacetic acid, +. 16th: Sugar by copper reduction, 15 per 1000; by polarimeter, 12 per 1000; and diacetic acid, +. From Nov. 30th there was a disappearance of diacetic acid, but a slight amount of sugar with a trace of albumin and casts persisted till March, 1901. On April 18th the report ran: Sugar, 0; diacetic acid, 0; albumin, 0; and no casts. The patient has since continued in a satisfactory state and has regained her former tolerating capacity for six ounces of ordinary bread per diem. She was last seen on July 11th, 1902.

CASE 17.—In this case excess of alcohol and dietetic deviation were at the foundation of the "composite" condition that became developed. My history of the patient begins with April, 1893. He was then 39 years of age. There was a strong family history of the disease and, as often happens in these circumstances, the diabetes commenced in a mild form and was, indeed, first recognised through examination for life assurance. For a considerable time there was only a certain amount of impairment of assimilative power over carbohydrate. In 1897 a curtailment of the carbohydrate previously taken was required to keep the urine free from sugar. In 1900, through dietetic deviation, sugar was sometimes present in considerable amount and diacetic acid began to show itself. Whisky was also being taken to a pernicious extent. The condition of the urine on Oct. 4th, 1900, stood as follows: Sugar by copper reduction, 25 per 1000; by polarimeter, 17 per 1000; and diacetic acid, +. March 13th, 1901: Sugar by copper reduction, 32 per 1000; by polarimeter, 25 per 1000; and diacetic acid, +. On Oct. 4th the patient was in a thoroughly disordered state He was feeling ill and losing weight. His liver was to be felt three inches below the margins of the ribs and his urine contained albumin with hyaline and granular casts. Sugar, 41 per 1000; and diacetic acid, ++. Alarmed about his condition he almost abstained from whisky and resumed the proper dietary for his disease. Nov. 27th: Sugar, 0; and diacetic acid, 0. Jan. 10th, 1902: Sugar, 0; diacetic acid, 0; albumin, 0; and no casts. Up to May 9th the reports continued to be good. When seen on July 4th he had relapsed into his former mode of life with a return to his previous condition. The report upon his urine was as follows: Sugar by copper reduction, 56 per 1000; by polarimeter, 54 per 1000; diacetic acid, ++; and albumin and granular casts were present.

CASE 18.—This was a case of diacetic acid following a severe attack of sciatica. The patient had been under treatment for diabetes since February, 1895, when she was 57 years of age. At first it was not difficult to keep the urine free from sugar under the allowance of a moderate quantity of starchy food in the form of bread. Latterly less toleration of bread had existed and the amount of sugar, from insufficient restriction being exercised, had grown to an undesirable extent. When the patient was seen in July, 1901, there was, as previously, an absence of diacetic acid. At the beginning of October she took a chill from walking in thin shoes on damp grass and contracted a severe attack of sciatica. For several nights she was unable to remain through the night in bed and had to rest in a chair. She was convalescing when I saw her on Oct. 22nd. The urine then contained 50 per 1000 of sugar with diacetic acid represented by +++. On Nov. 27th the diacetic acid had disappeared and its absence

has since been noted at interviews on Jan. 23rd, April 14th, and July 20th of the present year.

The passage into the "composite" state thus supervening upon the development of another disordered condition may rapidly run on to the production of coma. The following is a case in point.

CASE 19.—The patient was first seen in March, 1898, when she was 67 years of age. The absence of sugar was easily susceptible of being maintained by limitation of starchy food. There had never been any indication of the presence of diacetic acid and on Sept. 20th, 1901, its absence was noted. In November the patient took cold and became the subject of bronchial trouble and of a severe attack of muscular rheumatism affecting the back of the neck and shoulders and giving rise to an extreme amount of distress. On Dec. 2nd the urine contained 31 per 1000 of sugar, diacetic acid corresponding with +++ and acetone ++. On Dec. 9th the following condition was found: Sugar by copper reduction, 45 per 1000; by polarimeter, 38 per 1000; diacetic acid, +++; and acetone, +; a trace of albumin was also present with the distinctive casts associated with diabetic coma. The patient died in a comatose state on the following day.

In the cases that have been alluded to the "composite" state has arisen with the occurrence of a supervening malady. If the "composite" state should already exist the supervention of another malady upon it is attended with the greatest danger and thus the insecure tenure of life known to be associated with advanced diabetes is in part to be accounted for. The following is an illustrative case.

CASE 20.—The patient first fell under my notice in June, 1901. He was then 53 years of age and had been for many years the subject of diabetes. Sugar was found to the extent of 21 per 1000 and a certain amount of diacetic acid was present. I was asked to see him on March 3rd, 1902. He had just arrived from abroad and had contracted influenza from the inmates of the house at which he was staying. The examination of his urine revealed the following condition: Sugar by copper reduction, 41 per 1000; by polarimeter, 30 per 1000; diacetic acid, +++; acetone, +; and albumin in decided amount accompanied with numerous casts. Two days later the patient died in a comatose state.

The information given by the acetone series is of much prognostic value. Indeed, the knowledge they supply in connexion with a case furnishes an insight into the future which cannot be obtained by looking solely to the sugar. Sufficient already has been said to show that it is not to be concluded that their presence is indicative of imminent fatality, but at the same time their presence to a pronounced extent and without any outside influence to account for them must be regarded as of exceedingly bad augury. Weintraud[1] states that he noticed the presence of diacetic acid in one of Naunyn's cases five years before death occurred. I may in connexion with this matter cite from my own experience the following case.

CASE 21.—The patient was first seen in September, 1885. He was then 48 years of age. After progressing in a fairly satisfactory manner till December, 1899, diacetic acid then showed itself in his urine. The report ran: Sugar by copper reduction, 22 per 1000; by polarimeter 22 per 1000; and diacetic acid, +. On April 5th, 1900, the following condition was found: Sugar by copper reduction, 34 per 1000; by polarimeter, 28 per 1000; and diacetic acid, ++. My next record is for Nov. 1st, 1901, when the report stood: Sugar by copper reduction, 34 per 1000; by polarimeter, 33 per 1000; and diacetic acid, +. I have not seen the patient since, and as far as I am aware he is still alive.

When the acetone series of products are discoverable to a large extent in a case it may be safely concluded that life is not likely to last long. On March 5th of this year a patient came to me bringing urine that yielded on examination the following results: Sugar by copper reduction, 61 per 1000; by polarimeter, 37 per 1000; and diacetic acid, +++. I felt that the patient could not in this condition last long and I wrote accordingly to the local medical attendant. She died in coma 12 days after. The difference between copper reduction and polarimeter values here amounted to 24 per 1000. These are about the highest figures I have met with, and when brought into terms of actual oxybutyric acid give 53 per 1000 as the quantity present.

The following case also affords a good illustration of the value of the information derivable from a detailed examination of the urine for the acetone series.

CASE 22.—The patient, aged 38 years, first fell under my observation on April 14th, 1902. He had noticed in the previous autumn from his Turkish-bath weighings that he was steadily losing weight and through this he sought advice when the existence of diabetes was recognised. There had been no urgent thirst or great flow of urine and the condition had not been regarded as one to call for immediate anxiety. A partially restricted diet was being followed. The full examination of the urine showed at once the grave state existing. The following were the results obtained: Sugar by copper reduction, 50 per 1000; by polarimeter, 39 per 1000; diacetic acid, +++; acetone, ++; and a trace of albumin with granular and hyaline casts. Several subsequent examinations were made which showed some fall in the sugar, but the acetone series persisted to about the same extent and the patient grew gradually worse till July 9th, when death took place.

The testing for diacetic acid is a matter of easy accomplishment and it gives a certain amount of information, but the value of the information conveyed is not to be compared to that obtained from the quantitative determination of the oxybutyric acid by the agency of copper reduction and the polarimeter. This, however, requires experience and time, but the result may be considered to repay the labour undertaken. A double process is involved. It is possible, however, by fermenting away the sugar to make the polarimeter alone serve for giving the required information. If this is done confidence has to be placed in oxybutyric acid possessing the power of fully resisting destruction during fermentation, which is doubtful.

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[1] Archiv für experimentelle Pathologie und Pharmakologie, Band xxxiv.

MYOMA OF THE VAGINA.

BY W. ROGER WILLIAMS, F.R.C.S. ENG.

CANCER of the vagina is rare, sarcoma is rarer still, and myomatous tumours are the rarest of all. Although the vaginal musculature is much thinner than is that of the uterus, in other respects there is much similarity between them, except that the former lacks the post-embryonic developmental potentiality of the latter. It is owing to this functional difference, and consequent diversity in the number and arrangement of its blood-vessels, &c., that myomatous tumours arise so very much less frequently from the vaginal than from the uterine walls. The musculature occupies an intermediate position in the vaginal parietes, between the corium of the "mucosa" and the fibrous tissue of its outer coat, to both of which it sends processes. It is most abundant in the lower part of the vagina, especially anteriorly in the vicinity of the base of the bladder; and it is significant that these are just the localities where vaginal myomata are most prone to develop. Blood-vessels, lymphatics and nerves also enter into its composition.

As in the case of their uterine congeners the precise structure of vaginal "fibroids" has been much debated; and, as Virchow long ago remarked, the reports of cases rarely enable us to determine with certainty whether we have to do with myomatous, fibro-myomatous, or merely with fibromatous formations. To a certain extent this criticism is still valid. No doubt the relative proportions in which myomatous and fibrous structures enter into their formation is very variable; but, in spite of difficulties of this kind—and the rarity with which observers have resorted to the special reagents and technique necessary for the discrimination of leiomyomatous elements—it appears that the great majority of recently recorded cases have been myomatous. This was obviously so in 19 of the 29 modern cases tabulated by Phillips. Probably future investigation will show that nearly all vaginal "fibroids" are myomatous *ab origine*.

Vaginal "fibroids" differ from their uterine congeners in their comparative rarity (only three to 1073 cases) and in that they are nearly always solitary. Instances of multiple vaginal myomata have, however, been reported by Odenin and Strassmann. Odenin's patient was a peasant, aged 32 years, who when only 18 years old had twins and subsequently one miscarriage. At several sittings no less than 16 myomatous tumours were removed from the vaginal walls.

These tumours were of variable sizes—the largest being as big as the fist, two others were of the size of hen's eggs, and the rest were smaller. Some of the tumours were stalked, others were sessile. They were circumscribed, hard, lobulated, and whitish on section. Histologically examined their structure was that of "myoma lævicellulare." In Strassmann's case two small, partially calcified, tumours were present. Leisering has met with over 20 tumours of this kind in the walls of the vagina of a dog. In cases reported by Stumpf and Strassmann the tumours were multinodular. Hastenpflug, Byford, Oliver, and Taubert have found tumours of this kind coexisting in the vagina and uterus. Schroeder and Pillore have met with the like concurrence in the vagina and ovary, while Virchow has described an instance in which the vagina, the uterus, and the ovary were concurrently affected. An instance of vaginal myoma in an unmarried woman, 21 years old, who was the subject of double uterus and vagina, has been reported by Emmet. Most vaginal fibroids are of intra-peritoneal origin, springing from the musculature, but exceptionally they arise in neighbouring tissues (paravaginal). Aberrant uterine myomata, sequestrated from their original matrix, sometimes acquire a paravaginal *habitat*. The great majority of vaginal myomata originate anteriorly; this was the condition in 25 of Kleinwächter's 39 cases and in 23 of Phillips's 29 cases. Veit believes that many myomata originate in connexion with Wolffian "rests." In support of this view Pick has described a remarkable myomatous tumour of the posterior vaginal fornix which contained epithelial lined tubules similar to those found by Recklinghausen in uterine myomata. Krönig and Poupinel have also met with structures of this kind in tumours of this vicinity. At an early stage of development the vaginal "fibroid" presents as a small, hard, circumscribed, mobile tumour in the vaginal wall. As it increases in size it usually tends to project into the vagina, being covered by its muco-cutaneous lining membrane. The tumour is at first sessile and it may continue so, but more commonly it gets involved in the vaginal lumen and so acquires a pedicle which is generally short and thick. Sometimes, however, the pedicle undergoes such elongation as to admit of the "fibroid" hanging from the vulva, and large tumours have been known to reach even as low as the knees, of which Paget has cited instances. The implantation area of large tumours is generally well supplied with blood-vessels, which may bleed freely when divided.

Vaginal "fibroids" increase slowly, several cases of over 12 years' duration having been reported, but they seldom attain large size. When first noticed they are commonly no bigger than a hazel-nut or a walnut, but specimens of the size of a child's head and weighing over 10 pounds have been met with. Large tumours cause great distension of the vagina and by their bulk interfere with the functions of adjacent organs, such as the bladder, the rectum, &c. These large tumours constitute a serious malady, but the small ones seldom cause any special inconvenience. Extruding tumours are apt to be complicated by inversion of the vagina, and in displacements of this kind the bladder or rectum may be involved. Such tumours may even separate spontaneously and be expelled per vaginam, of which several instances have been reported. In their morphological characters vaginal myomata resemble their uterine congeners, as they are generally encapsuled, circumscribed, nodulated, and of dense quasi-fibrous texture. Softish varieties are, however, met with which may be telangiectasic or lymphangiectasic, as in cases reported by Boutin, Hofmokol, Flunderberg, and others. Calcification is rare, but instances have been reported by Taubert and Strassmann.

By far the commonest of the superinduced changes met with in these tumours are those that result from *septic infection*—viz., congestion, œdema, inflammation, necrosis, and gangrene, which are usually consequent on some form of injury. Salpingitis, pyosalpinx, peritonitis, and septicæmia are frequent concomitants of this kind of accident.

Any form of malignant disease originating in vaginal myomata is most exceptional, but sarcomatous changes have been reported by Homs and Cartlege, and myxomatous by Kleinwächter and Péan. With regard to the age incidence, of 20 cases tabulated by me the youngest—when the first indications of the affection were noted—was 20 years and the oldest 46 years; and their mean age was 33·4 years. When these same patients sought surgical advice owing to the supervention of more or less urgent symptoms their average age was 34·6 years. Thus vaginal myomata occur on the average several years earlier than do their uterine congeners. The age distribution of these 20 patients at the onset of the disease was as follows: from 20 to 30 years in six cases, from 30 to 40 years in nine cases, from 40 to 45 years in three cases, and from 45 to 50 years in two cases. This shows a preponderance of cases arising during the fourth decade—i.e., prior to the menopause. R. R. Smith's analysis of 69 recently reported cases agrees with this, for 40·5 per cent. of his patients belong to the fourth decade. According to Kleinwächter, however, the period of maximum liability is considerably later—viz., at about the time of the menopause. It is alleged that these tumours may be congenital or appear during early infancy, but anyone who cares to study the reports of the cases commonly cited in support of this statement—viz., those of Martin, Traetzl, and Wilson—will see, as I have elsewhere pointed out,[1] that none of the polypoid formations in these cases were really of the nature of myomata. A considerable proportion of those affected with these tumours are single and among the married the ratio of sterility is in excess of the normal. Vaginal "fibroids," even when of some size, seldom cause menorrhagia or other menstrual derangement, for of R. R. Smith's 69 cases menorrhagia was noted only in seven. Irregular hæmorrhagic vaginal discharges are occasionally met with (15 times in 101 of R. R. Smith's cases). The liability to conception is but little affected, hence the tumours are often concomitant with pregnancy, and instances of dystocia from this cause have been reported (Pelletan, Gensoul, McClintock, and others). In McClintock's case the tumour was gangrenous. The projection of the tumour at the vaginal orifice is usually the first indication of the disease, and it is for this rather than for special symptoms caused by the tumour that most patients first seek professional advice. Painful and difficult micturition, with blood-stained urine in some cases, are among the early symptoms, and at a later period there may be retention of urine, but this is rare except with large tumours. Difficulty in defecation may also occur but severe obstruction is very exceptional. Leucorrhœal discharge, painful coitus, lumbo-sacral pain, and sanious discharge are also among the initial symptoms occasionally observed. At a late period the surgeon is often consulted on account of inflammation and necrosis of the tumour as well as for its troublesome bulkiness.

In making the diagnosis of vaginal tumours it is well to recollect that this part of the body is prone to originate localised invaginations and prolapses (cystocele, rectocele, enterocele, &c.) which at first sight often present a certain resemblance to myomatous and other tumours, cysts, &c. In displacements of this sort the bladder and urethra are often involved while the rectum generally escapes. Vaginal displacements are especially apt to occur during labour complicated by the presence of vaginal tumours. Cysts of the part, especially when circumscribed, thick-walled, and tense, may closely simulate vaginal myoma. Usually, however, vaginal myomata are easily diagnosed. Myomata of any size, especially when they interfere with natural functions or present signs of septic infection—inflammation, œdema, sloughing, &c.—should be removed. Similar treatment is required for tumours that have been extruded from the vulva or that obstruct the vaginal outlet. Aseptic technique should be observed.

In dealing with polypoid tumours if the pedicle is of no great thickness, and accessible, it should be transfixed, ligatured in two places, and divided between the ligatures. Before effecting division it is well to ascertain that no diverticulum of the vagina, bladder, or rectum is involved in the pedicle. In all other cases enucleation is the best method of treatment. The bladder and rectum having been evacuated the vaginal walls are separated by retractors and the tumour is seized with the toothed volsella and brought into view. Should it be very large and the vagina narrow vaginal *débridement* may be necessary. For anteriorly situated tumours the catheter is retained in the bladder to guard against injury of the urinary tract, while a deep and free incision is made into the presenting part of the tumour, laying open its capsule. With the handle of the scalpel, an enucleator, or other suitable blunt instrument the tumour is gradually separated from its bed and removed. To effect this with large tumours morcellation may be necessary. During the enucleation of posteriorly situated tumours a guiding finger or bougie should be kept in the rectum. The hæmorrhage attending the removal of

[1] British Journal of Obstetrics and Gynæcology, April, 1902.

vaginal myomata is often free. Bleeding points should be seized with pressure forceps and ligatured. The redundant margins of the tumour-bed having been resected deep sutures are passed with a handled needle so as to close the gap and at the same time to surround and compress the bleeding areas. The closure of the wound is then completed with superficial sutures. Finally, the vagina is lightly packed with iodoform gauze. In exceptional cases it may be necessary for the arrest of hæmorrhage to gauze-pack the bed of the tumour. Tumours of this kind concomitant with pregnancy should not be interfered with unless they seem likely to cause dystocia or unless they have become septically infected, sloughy, &c., when they should be promptly removed, the pregnant uterus being interfered with as little as possible.

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A CASE OF SADDLE-NOSE TREATED BY SUBCUTANEOUS INJECTION OF PARAFFIN.

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A MAN, aged 20 years, gave the following history. At the age of 14 years he had an injury to the nose which resulted in an abscess of the septum. This was treated but in the process of healing it was noticed that the bridge of the nose became depressed and the final result is shown in Fig. 1. This photograph was taken at the request of a surgeon who proposed to correct the deformity by operation. Nothing was, however, done at this time and the nose remained in the same condition until the patient was sent to me recently by Dr. R. Marsh. When I saw him there was a typical saddle-nose deformity, the profile view of which is shown in Fig. 1. In the front view the deformity was not quite symmetrical, there being a depression over the situation of the extremity of the right nasal bone. The case appeared to be a favourable one for treatment by the paraffin method, as the skin was thin and easily pinched up between the finger and thumb and there was no scar tissue.

FIG. 1.

Before operation.

The patient was chloroformed by Dr. Marsh as he appeared to be of a nervous temperament and it was not certain how much pain would be caused by the injection of the hot fluid. The sterilised paraffin used was prepared by Martindale and had a melting point of 110° F. About half a drachm was injected by means of an ordinary antitoxin syringe, the above-mentioned depression being selected as the point for the insertion of the needle. The nose was then moulded into shape. For four or five days there were considerable œdema and redness of the nose, but there was no pain. These subsided under cold applications, leaving the nose in the condition shown in Fig. 2. In the front view the nose is now symmetrical, but of course it is still as broad as before.

FIG. 2.

After operation.

Remarks.—The anæsthetic was probably unnecessary, but a case has been reported in which severe pain was caused by the procedure when performed under local anæsthesia. With regard to the melting point of the paraffin used, at first a paraffin of low melting point—e.g., about 104° F.—was used (Gersuny). It has been shown that this does not always give permanent results and it is found that paraffins of higher melting point—e.g., from 120° to 130° F.—are more satisfactory (Eckstein). In this case I chose a paraffin melting at 110° F., as this seemed to me to be free from most of the defects of the low-melting paraffin and easier to manipulate with simple apparatus than the high-melting paraffin. It is advisable to have a special short thick needle to the syringe. In conclusion, I would point out that patients are apt to be disappointed in the result at first, as the front view is not much affected and they cannot at once realise the change in profile.

Hove.

THE DIAGNOSIS AND TREATMENT OF MALIGNANT STRICTURE OF THE ŒSOPHAGUS.[1]

BY CHARTERS J. SYMONDS, M.S. LOND., F.R.C.S. ENG.,
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To put the subject of this debate briefly, it may be said that the diagnosis of malignant stricture of the œsophagus resolves itself into the passage of a bougie, to ascertain the presence of an obstruction, and the treatment in deciding the best way of introducing food. However, one sees so many cases treated for dyspepsia that it is necessary to consider a few of the early symptoms. In speaking to an audience of experts I will limit myself to what appear

[1] A paper read before the Laryngological Society of London on June 6th, 1902, in opening the discussion on the above subject.

to me to be essential points and endeavour not to weary with unnecessary details.

A gradually increasing dysphagia is the common history in most cases. In by no means a small number the onset is sudden—e.g., at a particular meal a man choked over a mouthful of meat and from that moment had difficulty. Another, after shouting himself hoarse in welcoming the men from the *Powerful* in the City, had choking the same evening and developed cricoid obstruction. In one instance a loathing for food so great as to require feeding by a tube was the leading sign for some weeks. In another the man complained of pain as the food passed the centre of the gullet. I have seen one instance where there was no dysphagia; the man was anæmic and was thought to have cancer of the stomach, and when his evacuations were black this view was strengthened. At the necropsy we found the greater portion of the œsophagus occupied by an ulcerating carcinoma, which had enlarged and not constricted the lumen at any point.

Before a bougie is passed a good many patients are treated for dyspepsia and much valuable time may be lost. One sees such patients losing flesh not so much on account of inability to swallow as because the diet has been restricted on the view that the disease was gastric. It must be remembered that so-called dyspepsia—i.e., loss of appetite, "tightness at the chest," waterbrash, some pain, and distension with irregular bowels—may be the result of œsophageal obstruction. The restricted diet usually prescribed tends to increase the symptoms. A diagnosis can generally be made by asking the patient to swallow liquid. This, when marked, is characteristic; he makes one ordinary effort followed by one or two smaller ones and these are accompanied by certain peculiar movements of the neck. Then he brings up a little gas, often hits his chest and says it has gone. Kussmaul's sign—viz., listening to the back to hear the fluid arrested at the stricture and then trickling through—is always interesting and when the observer does not pass a bougie is sometimes valuable. I am sure from what I see that an unnecessary fear exists as to the dangers attending the use of a bougie in the minds of many. Provided that a fair size be employed and no force used, and especially that no pressure be made when the patient strains to extrude the instrument, there is no danger. The bougie should be advanced in a deep inspiration or on an act of deglutition and held still on any expulsive effort and again advanced on inspiration. That there are dangers with fine bougies and in advanced disease one cannot deny. In passing the cricoid one must wait for the inspiration which follows the first glottic closure or make the patient regurgitate by passing the left forefinger far back on the tongue. To press at this moment may in close cricoid stricture send the bougie into the trachea. Once more it may be added that in impermeable cricoid obstruction, where the patient is particularly tolerant, there is special risk of entering the trachea. It is remarkable to note how a patient will bear the pressure of a large bougie in the windpipe for some time without coughing. In any doubt we must pass the bougie not more than 12 inches and examine its position with a laryngoscope. These special points refer rather to treatment but it seemed right to refer to them here.

With these general remarks I will next ask you to consider diagnosis of the disease as it affects the three situations—viz., the upper third and cricoid orifice, the lower end and gastric orifice, and the central region.

The upper third.—Stricture at the cricoid or beginning just below the ring is, in my experience, always malignant. It begins at from eight and a half inches to nine inches from the teeth and usually involves two or three inches. The chief peculiarity is the tendency to cicatrise and contract; so marked is this feature that a specimen may be indistinguishable to the naked eye from a chronic syphilitic or other ulcer. If the margin of such a specimen, however, be examined microscopically squamous epithelial growth will, I believe, always be found. The contraction is irregular, so that a bougie in passing may have to turn several corners. In the diagnosis of disease at the cricoid I have found four conditions give rise to confusion.

1. The one most closely resembling organic disease is dysphagia occurring in elderly people. In the first instance that came under my notice the patient was a woman, aged 70 years. There was dysphagia for solids and fluids caused trouble; a bulb passed with difficulty, there was a streak of blood, and altogether I thought gravely of the case and gave a serious prognosis. The symptoms soon disappeared and the patient after some years is still well. A similar instance came before me again in a woman over 70 years of age and another in a man over 80 years of age. In the persistence in the indefinite obstruction to a bougie, and in the age of the patient, there is sometimes a close resemblance to malignant disease. There is also an absence of the nervous symptoms seen in younger people. The condition suggests some organic change, giving rise to temporary interference with deglutition. I have thought that possibly an excessive cricoid ossification or some bony outgrowth interfering with movement might explain these cases.

2. The nervous form, especially when occurring in men, and in medical men of all others, can only be settled by time. Suddenly such a patient has difficulty at a meal over a mouthful of food and later cannot swallow a pill or a crust of bread. He has to be more careful in eating than before. It is well known that such is often the history of the early stages of malignant stricture. The passage of a bougie is not easy, a little blood may result to further confuse the issue, or one may fail to pass the bougie beyond the cricoid without undue force. Where such symptoms occur in a man of the age of 49 or 50 years the diagnosis is not easy. In both affections the freedom of swallowing varies, in both soft solids are better dealt with. I would say, however, that in malignant disease the patient almost always permits the passage of a bougie and that there is found irregularity of the surface indicating disease of some standing. Practically in the majority there is no great difficulty, but in a few cases—especially if they happen to be medical friends—it may give rise to no small anxiety.

3. The third condition is that of a pharyngeal pouch. When well marked the symptoms of this complaint are so defined as to clear up quickly any difficulty. The subject has been so well dealt with before this society that I need only refer to Mr. H. T. Butlin's communications.

4. Malignant disease of the lower end of the pharynx, involving the arytenoids, cannot be excluded from a discussion upon œsophageal stricture, and as the same treatment is required I must refer to it here. The main distinctions are the pain accompanying dysphagia; the voice early has the peculiar sound produced by the presence of œdematous arytenoids; again, the growth usually can be seen in the early stages. It appears first as a pale cushion below the arytenoids and gradually advances, giving rise to early œdema of one or other arytenoid. These patients often continue to swallow fairly well and can, so far as I have seen, always be relieved by a soft tube. The direct extension to the larynx is the special feature of disease in this situation. Those who have seen many of these cases will have observed the greater frequency in women and in many at an age nearer 30 than 40 years. I may add that in one instance—that of a woman also—the early mass seen below the arytenoid disappeared under iodide of potassium. I have not myself encountered syphilitic disease lower than the pharynx. I have one patient with slight obstruction just above or at the cricoid who had originally—some 30 years ago—syphilitic ulceration involving the larynx.

The middle third.—A sarcoma and a myoma may occur and may give rise to obstruction. In one of my cases a sarcoma was found as a localised tumour, but clinically it was indistinguishable from the ordinary carcinoma. With such rare exceptions as these all obstructions of any moment in this section of the œsophagus are due to carcinoma. It is very noticeable that aneurysm and mediastinal growths rarely give rise to serious dysphagia. Once only have I passed a bougie in a case of aneurysm and the sensation communicated to the hand was, I thought, diagnostic of the disease. The patient was sent on to me with a diagnosis that mediastinal pressure was absent. The bougie passed over a convexity and smoothly descended without any difficulty. Œsophageal pouches occurring in the middle and lower sections are sometimes very difficult to detect. In one patient, aged 72 years, symptoms of obstruction had existed for several years; a bougie was arrested 14 inches from the teeth; on one occasion it slipped past and there seemed abundance of room. Under chloroform the largest bougie was several times guided past the orifice. At this time he regurgitated a good third of his food. For another two years he went on much the same and died somewhat suddenly from another malady. There was no doubt a pouch in this case. The long duration was a strong point against malignant stricture, the second that he could always take solids. In another instance a man was sent to me for pyloric vomiting; without going at length into his case I may say

that the symptoms pointed to obstruction low in the gullet and the large quantity of food retained to the existence of a pouch. He was fed by a tube and the vomiting ceased. I thought it better that he should learn to feed himself in this way than undergo a gastrostomy. After a year of such treatment he is in good health and able to do his work.

The lower end.—The lower end—i.e., a point from 15½ to 17 inches from the teeth—is, in my experience, the only locality where we find a simple obstruction. One is justified in saying that as the obstruction is in this situation the cause may be simple and that, the mechanical difficulty being overcome, the future carries more hope than does obstruction in any other situation. I have notes of five such cases, two with pathological evidence, while three are clinical. In the first two the symptoms were those of obstruction only and they died unrelieved. One of the three living patients has had symptoms for some years and is relieved from time to time by the passage of a coudé bougie; another has swallowed well since a gastrostomy was performed over a year ago, never having required to use the artificial opening; while the third has had symptoms for 20 years and has required a bougie from time to time. I will again refer to the use of the coudé bougie in obstruction at the lower end; let me here, in referring to diagnosis, insist upon its great value. When a small straight bougie will not pass a large coudé may slip through easily. The two specimens referred to showed a simple fibrous thickening, allied no doubt to that seen in the pylorus. Slighter degrees of obstruction occur in this situation, which may be called spasmodic. I have seen only one marked case, that of a woman, aged 30 years, who when I saw her had had obstruction for 24 hours. A bougie encountered resistance, which yielded, as would a tight sphincter. The obstruction was definite, not a purely nervous form.

This brings me to the whole question of "spasmodic stricture" so-called. Personally, I must express a disbelief in such a complaint, apart from the hysterical cases. Of these latter, the worst two that occurred were in a boy, aged seven years, and in a man, aged 35 years, both hospital patients, and both of whom were greatly emaciated. The boy was cured by the temptation of a penny currant bun; the man took a pair of the largest bougies. All the cases brought to me for spasm, except the hysterical, have a basis of malignant growth. I have mentioned before that in a growth in any situation there may be in the early stages much difficulty from added spasm, and varying mechanical alterations in the growth itself, permitting the taking of solids on one day and of fluids only with difficulty on another.

When the stomach is infiltrated by malignant disease and so reduced as to hold but a couple of ounces—the so-called leather-bottle stomach—the resemblance to obstruction at the cardiac end of the gullet is very close. In one instance the patient could retain about one and a third ounces, any larger quantity being rejected. But this amount, taken frequently, was retained and the diagnosis was thus established. This was confirmed by operation. In another with obstruction at the cardiac orifice I found on performing gastrostomy only a small portion of the stomach free and available for establishing a fistula. I have no doubt that we had entered the stomach through the œsophagus and that the inability to retain fluid was due to the reduced capacity. After the operation we were never able to introduce more than two ounces at a time.

Of œsophagoscopy I have no personal experience. Its value was recently demonstrated to me by Professor Mickulicz of Breslau who showed me a case of actinomycosis recognised by this method. A piece of growth was removed by forceps and examined.

I may summarise the diagnosis in the following way:—1. Among early symptoms we may have so-called dyspepsia, nausea, and repulsion for food; pain alone when the central district is affected. 2. The passage of a bougie is the only way to clear up the case and its employment need not be feared. 3. Extra-œsophageal disease rarely gives rise to serious dysphagia. 4. Spasmodic obstruction, apart from the hysterical form, has always, when decided, an organic cause and this would be better called intermittent dysphagia. 5. With regard to the three special districts it may be said (*a*) that all organic obstruction in the upper third is malignant and has a special tendency to cicatrise; (*b*) that in the central half of the gullet a sarcoma or a myoma, both rare diseases, may cause fatal obstruction, and here also a pouch may give rise to difficulty in diagnosis but can generally be excluded; and (*c*) that in the lower end alone does simple stenosis occur, and here there may be difficulty in distinguishing from cancer of the stomach causing great reduction of the cavity (leather-bottle stomach). 6. Finally, in estimating the extent of the disease, the special value of the steel bulb is noted and also the use of the coudé bougie in obstruction at the lower end.

TREATMENT.

Speaking generally, it may be said that we can relieve by mechanical means only and that two methods are available, one to overcome obstruction by inserting a tube of some kind and the second to open the stomach below the obstruction—i.e., to perform gastrostomy. I would put the general question of treatment in the following way as applying to all cases. 1. While the patient can swallow fluids and semi-solids and while a bougie can be passed and plenty of nourishment taken he may be left alone so long as (*a*) he can swallow well or (*b*) a small bougie, No. 12 catheter gauge, can be passed. 2. If the dysphagia increases, even though a bougie can be passed, then a tube must be inserted or gastrostomy must be performed. These conditions are seen in the soft fungating forms. 3. If a bougie cannot be passed or goes with difficulty then the same course must be followed, as we know that complete closure may occur at any time. 4. If both conditions arise—i.e., the patient cannot swallow and a bougie cannot be passed—then immediate mechanical treatment is required. Probably most have summarised their treatment in some such fashion.

I have not advocated the passage of bougies with a view of dilating the stricture. It is injurious in that it irritates and leads to increase of obstruction; it may split a hard stricture and set up rigor and fever from absorption. In my own practice I have abandoned this method in all malignant cases. The object of the small bougie, to which I have referred, is simply to secure the route, so that at any time a tube can be passed for feeding purposes or the time fixed for gastrostomy. More than this has in my experience proved injurious. As applying to all cases, I would here again refer to the advantage of attempting the passage of a tube after a night's rest and a dose of opium.

Turning next to each region, in the upper third we have to note the great tendency to rapid closure and to the certainty of complete obstruction sooner or later. Two methods are available here—the long feeding-tube and gastrostomy. Though I have successfully employed a short tube it does not, as a rule, rest comfortably unless the highest part of the stricture be at least one and a half inches below the cricoid. Of the long tubes the best is that made from rubber drainage-tube, introduced by the whalebone director. When this cannot be passed the retention of a silk-web tube for a few days will so enlarge the passage as to enable the other to be inserted, or an ordinary urethral catheter will answer and sometimes the coudé variety will pass. If the patient be fairly tolerant the method is a useful one. The tube will last a long time—for so long as nine months. If it comes out it can always be replaced if the attempt be made at once. Should the tube, when rejected, be soft and have lost its elasticity then a fresh piece must be used. It should never be removed for cleaning, as re-insertion may be difficult. I have conducted many such cases to the end with this tube; the main objection is that saliva cannot, as a rule, be swallowed, though some patients will sip fluid by the side of the tube. Another objection is that it does require some dexterity, perhaps, to insert in difficult cases and much patience, but not more of either than does the passing of a catheter in stricture of the urethra. The form that I have for many years used is somewhat roughly made, the end of a piece of ordinary No. 10 drainage tube being sewn up with silk and a big eye cut above. Note that the end of the introducer is passed into the eye and a small plug of wool is inserted into the closed end to prevent the introducer slipping through. The proof that the thinnest-walled rubber tube would keep a malignant stricture dilated was first pointed out by Mr. J. Berry. We must contrast this method with gastrostomy, and I would say that where the patient is low and unable to bear abdominal section it is our only plan. As an alternative I find that it has sustained life in comfort equal to the most successful gastrostomy and greater by far than when the stomach contents escape and cause excoriation. When the patient is intolerable and objects then we can only offer gastrostomy. The longest time I have known one of these rubber tubes to remain unchanged was for 13 months. The obstruction was at the cricoid and great

difficulty was encountered in passing the first long feeding tube. The rubber form was easily introduced after a few days' residence of the silk-web tube. From time to time small pieces of the rubber tube had to be removed, as it split near the silver cannula. The patient died with the original tube in position. Others have worn it for varying periods. In two cases patients have also worn tracheotomy tubes. One now under treatment has had a tube in for 11 months and a tracheal tube for four and a half months. The same method answers admirably in disease of the larynx. In this form the obstruction to a bougie is never very great and I have had patients fed by a member of the family three or four times a day. Its application is limited. After many trials I have no doubt that the best tube is the gum-elastic silk-web, with a closed end and two large eyes, and the best sizes are Nos. 10, 12, and 14. Smaller ones are of little use for permanent wear and dilatation up to 12 is best conducted by the long tube. The vulcanite pattern introduced by Renvers I have found of no value; it is too hard and too short. The most suitable cases for this method are those where the stricture is short and has a tendency to contract; then a four-inch tube answers admirably. The position and length of the stricture are ascertained by a steel bulb. In the central portion—i.e., for obstruction occurring from a point from 10 to 14½ inches from the teeth—we can use a short tube in addition to the long one. When introducing this method in 1884[2] I said that I hoped it would give relief in a certain number of cases, and it has fulfilled this forecast and no more. The experience published in two former papers[3] represents very well the value and use of the short tube, and later experience has confirmed it. Of recent cases I may cite the following.

A man, aged 55 years, had dysphagia early in 1898. On Feb. 24th, 1899, a short tube was inserted. The stricture, a short and contracting form, was situated 14 inches from the teeth. On April 21st the tube was removed at the patient's request and there was great difficulty in inserting another. On May 2nd a tube was inserted. On July 28th a new tube was introduced by Mr. F. J. Steward. On March 3rd, 1900, the tube was still in and acting well—i.e., over seven months. Some time later the patient showed signs of extension to the lung and died on June 3rd, 1900. Thus one tube was in for 10 months. The duration of the disease before tubage was 12 months and under tubage it was 16 months, of which certainly 13 months were passed in comfort, and the man was able to attend to his business. In another case the short tube acted perfectly up to the time of death, the treatment covering a period of more than a year.

Disease involving the lower end and cardiac orifice I have found difficult to treat by a tube. I admit that occasionally one has been successful with a short tube or a long one, but as a rule it is rejected on account of the contraction of the diaphragm. Early gastrostomy seems to me to be the best advice. I advise that this be done while the patient's general condition is good. One very strong point in favour of this course is that, as I have said earlier in this paper, simple stenosis may occur in this situation. Given, therefore, a successful gastrostomy life may be indefinitely prolonged. Moreover, it may be possible, especially with the coudé bougie, to dilate the obstruction after the gullet has had a good rest. We may at least anticipate some return of swallowing. Of course, as in other situations, operation would not be undertaken so long as a bougie could be passed freely and the patient could swallow. Early gastrostomy applies especially to malignant disease in the situation. I must mention one remarkable case—referred to before—that of a woman with great dysphagia and emaciation and obstruction at the lower end in whom a bougie could be passed. As she lived in the country and as dysphagia was increasing I performed gastrostomy. From that moment the power to swallow returned, and though the second stage of the operation was completed it has not been necessary to use the stomach opening. The woman remains so well now, more than a year from the operation, that I think the case must have been one of simple obstruction. Dilatation could not have been effected by suturing the stomach to the abdominal wall and the only other suggestion one can offer is that a tortuosity has been straightened.

In view of the occasional occurrence of simple stenosis at the cardiac orifice it seems to me our duty to press operation upon our patients when the dysphagia is marked.

The use of chloroform to facilitate the introduction of a tube is a question for discussion. Personally I have always had an objection to it, but I must admit that in cricoid strictures it has been of great service and deserves a wider employment. So easy is it, however, to pass a small bougie or tube into the trachea that I make it a rule after passing a tube for 12 inches to examine with a laryngoscope to see that it is really in the œsophagus. In one case, when this precaution was omitted, after waiting some time and there being no spasm or cough milk was poured down and passed into the lung with disastrous consequences. In another the tube passed through a tracheal fistula.

Reviewing the whole question of treatment, and contrasting tubage and gastrostomy, one may say as regards the latter that it at once disposes of all difficulty as regards swallowing; that in obstructions at the cardiac end it should be performed early; and that in all patients intolerant of the tube and bougie time should not be wasted. In advanced cases, where leaking can be prevented and immediate feeding undertaken, the operation may be successful, and there is reason to expect that such a method has been found. Unfortunately, many cases among the poor are obtained in too advanced stage for operation to be considered and there are others who decline operation. It is necessary, therefore, to perfect as far as possible the alternative method of tubage. With regard to cricoid strictures and disease in the lower part of the pharynx I am quite satisfied with the rubber tube and believe it to be superior to gastrostomy. We want a tube so constructed that it will not be easily regurgitated and I believe this will be produced. Once a tube has been retained it is never wise to dispense with it even for a day. I have several times yielded to the patients' wishes in order that they may enjoy the luxury of a solid meal and been unable to reinsert another tube. The insertion of the new tube should immediately follow the withdrawal of the old one, be it a short or a long tube. The short tube has, as I said, a limited use, being of little service in disease of the two orifices. But in the central section I still find it valuable. It is open to the objection that it is liable to get blocked and that, again, some skill is required to insert it. With cases where there is no cough I have known it remain unchanged for 10 months and in another for three months. There is no necessity to remove these tubes for cleansing purposes. The silk, protected as is now done by fine rubber tubing, will last for months and the security of the silk is the only anxiety. When cough arises from extension of growth and hæmorrhage occurs the tube will get blocked and then a long feeding-tube must be used, either a silk-web or a rubber tube.

It is unnecessary on this occasion to go into details, so I will put the question of tubage as follows. The short tube is useful in strictures occurring from a point 10 inches to a point 14 inches from the teeth. It is of no use when there is cough on swallowing indicating perforation. It is of little value when the growth occupies a long stretch of the gullet. It is seldom of use in strictures involving the cardiac orifice and cannot, as a rule, be borne in disease involving the cricoid level. In suitable cases it has, however, given good results up to the time when perforation occurs, and then as a rule a long feeding-tube answers for the few weeks that remain. A word must be said as to the dangers of intubation. I have had accidents; fortunately, in only one case was life much shortened. In one case a tube was passed under chloroform through a perforation into the trachea. This showed the danger of chloroform. In another a tube in a tight cricoid stricture passed into the trachea. The man did not cough and gave no sign that such an accident had occurred until signs of pneumonia developed. In another a soft and ragged œsophagus was perforated, the man being in the last stage of the disease. These accidents occurred some years ago when I was endeavouring to improve the method of treatment. Since I have systematically used the laryngoscope to ascertain the position of the tube in cricoid strictures several similar accidents have been avoided. It is essential to use this check when operating under chloroform.

Summary of treatment.—1. In cricoid obstruction the long rubber tube gives excellent results. When not well borne gastrostomy, if selected, should be performed early. 2. In disease of the central portion the short tube is serviceable in a fair number of cases and when it acts well is superior to any other method. It must be replaced by the

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[2] Transactions of the Clinical Society of London, vol. xviii.
[3] THE LANCET, March 30th (p. 622) and April 6th (p. 669), 1889; Brit. Med. Jour., April 23rd (p. 870), 1887.

long feeding tube when pulmonary symptoms arise. 3. In disease of the cardiac orifice tubage is so uncertain that gastrostomy should be performed when dysphagia becomes serious.

Portland-place, W.

ON PANCREATIC CALCULUS,

WITH NOTES OF A CASE.

BY B. G. A. MOYNIHAN, M.S. LOND., F.R.C.S. ENG.,

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THE occurrence of stone in the pancreas was first recorded by Graaf in 1667. Morgagni in 1765 and, in England, Cawley in 1788 refer to instances observed by themselves. In 1883 Johnston collected the notes of 35 recorded cases. The fullest account was given in 1896 by Giudiceandrea and was based upon 48 recorded cases and two observed by the author.

The stones are generally white, greyish-white, or yellowish-white in colour, and rounded, ovoid, or elongated like a date stone. They are found in all parts of the duct of the pancreas, though much more frequently in the head; in the tail of the gland they are rarely seen. The calculi may be branched like coral, the trunk of the stone lying in the main duct and its offshoots in the secondary ducts. At times the canal of Wirsung is found packed with a coarse mortar or with sand or fine rounded pellets. The largest stone, measuring two and a half inches by half an inch, was seen by Schupmann. Calculi may be single or multiple; one of the most striking examples of the latter is in the museum of the Royal College of Surgeons of England (specimen 2834: Curnow's case). As many as 300 stones have been found in one case. The stones are chiefly composed of phosphorus and carbon salts. One case of oxalate of limestone is reported by Shattock. Johnston gives two analyses:—

I.

Phosphorus salts	72·30
Carbon salts	18·90
Organic matter	8·80

II.

Carbon salts	91·65
Magnesium carbonate	4·15
Organic matter	3·00

It is clear from this analysis that the pancreatic secretion during or before the formation of a stone is altered in quality, for carbon salts are not normally present. Schmidt, quoted in Schäfer's text-book, gives the following as the composition of the ash obtained from the pancreatic juice flowing from temporary and permanent fistulæ:—

—	From temporary secretion.	From permanent secretion.
Soda (Na_2O)	0·58	3·31
Sodium chloride	7·35	2·50
Potassium chloride	0·02	0·93
Earthy phosphates with traces of iron	0·53	0·08
Trisodic phosphate	—	0·01
Lime (CaO) and magnesia (MgO)	0·32	0·01

The antecedent condition necessary for the deposit of stone is probably retention of the secretion. This may be produced by inflammation of the canal of Wirsung extending upwards from the duodenum, or by a chronic interstitial pancreatitis however arising. Many attempts have been made by partial obstruction of the duct by ligature, by the injection of paraffin, and in similar ways, to give rise to an artificial lithiasis. So far as I am aware the only attempt that has succeeded was made by Thiroloix. He injected sterilised soot into the duct of Wirsung. At the necropsy the pancreas was found to be atrophied and in the tail a cystic swelling containing clear watery fluid surrounded by chronic inflammatory tissue had developed. In the cyst, and in the duct also, small concretions had formed.

Nimier attributes to micro-organisms a causative influence in the production of calculi. Galippe, on examining a stone, found numerous organisms distributed throughout, and Giudiceandrea discovered an organism very similar to, if not identical with, the bacterium coli commune.

Associated with calculi are found at times certain more or less profound alterations in the pancreas. Of such are acute and chronic interstitial inflammation, atrophy, dilatation of the duct, cyst, abscess, fatty degeneration, and carcinoma. Examples of cyst, dilatations of the canal of Wirsung, are recorded by Gould and Michailow. Acute inflammation dependent upon calculi and subacute inflammation leading to abscess have been observed by Roddick, Körte, and Caparelli, and carcinoma by Cawley, Portal, Schupmann, and others.

Symptoms.—So few carefully observed cases of pancreatic lithiasis have been recorded that it is impossible to give any accurate portrayal of the symptoms. In the majority of examples pain, or at the least a sense of great discomfort, has been felt in the upper part of the abdomen, generally at or near the middle line, and but rarely, as in Minnich's case, under the left costal margin. The pain frequently comes in sharp colicky attacks, similar to, but less severe than, those due to gall-stones. A sense of soreness or stiffness is noticed for a day or two after the attack. When the pain is at its height vomiting, hiccough, rigors, cold sweats, or collapse may be noticed. After the attack some fragments of stone may be found in the motions (Minnich, Leichtenstern). Diabetes has been often observed. Hansemann in 72 cases of diabetes associated with pancreatic disturbances found that in 12 stone was present. Oser in 70 cases of lithiasis observed that diabetes was recorded 24 times. The probability is that the onset of diabetes is due to the chronic inflammatory changes instituted in the gland by the calculus, but it must be remembered that such inflammatory alterations produce in the gland and its duct precisely those changes which are most likely to cause the deposit of calculous material. Fatty stools have been occasionally observed and in one case Lichtheim saw an abundance of fat-crystals in the fæces. Rarely jaundice may be caused, as related by Giudiceandrea and Pearce Gould, by the pressure of the stone upon the common duct. Lancereaux states that in each attack of pancreatic colic a temporary diabetes is produced by an inhibition of the secretion analogous to the inhibition observed when one ureter is obstructed by a calculus. The cardinal symptoms of pancreatic calculus, then, are: pain, colicky in character, similar to, but of lesser intensity than, gall-stone colic, and generally most intense in the epigastrium; pain or tenderness, and occasionally a feeling of resistance over the pancreas; the passage of fragments of stone; marked bodily wasting; fat diarrhœa; and in the later stages diabetes. It is rarely that all these are seen in association.

Diagnosis.—Claessen in 1842 first suggested the possibility of a correct diagnosis of pancreatic calculus being made. Friedreich, though he considered the occurrence of pancreatic colic not unlikely, wrote: "The diagnosis of pancreatic calculus is impossible." Material for a diagnosis was afforded by the cases of Lichtheim, Minnich, Körte, and others. In Minnich's case the pain began as a heavy pressure in the epigastrium and along the left costal margin; as it increased in intensity it passed round the left side and backwards to the spine. The patient, who had previously suffered from hepatic colic, remarked that the character of the two pains was identical. Körte has related a very interesting and remarkable case. The patient suffered from biliary colic for which the abdomen was opened; a large gall-stone was removed from the gall-bladder, which was drained by a tube. While bile was still being discharged the patient suffered from what he took to be a recurrence of his attacks of biliary colic. The patient died and a tumour in the head of the pancreas, which had been diagnosed as malignant at the time of the operation, was found to be an abscess with large concretions within it. Kümmell records an almost exactly similar case in which cholecystotomy had been performed; pain recurred and at the necropsy a large soft calculus was found in the canal of Wirsung. That pancreatic colic is associated with the passage of stones down the duct seems clearly to be proved by the case observed at different times by Minnich and Holzmann, for it was only after each attack that fragments of stone were found in the motions.

The presence of sugar in the urine may be observed at intervals. Holzmann found it intermittently in his case. While the same patient was under Minnich's observation at

an earlier date, no sugar was found though regularly sought. It is probable that it is only when advanced interstitial inflammation of the interacinar type is present and the islands of Langerhans are therefore affected that glycosuria is present. Caparelli records the case of a woman who developed, after many attacks of acute epigastric colic, an abscess above the umbilicus. The abscess burst and discharged some pus and gritty material. Through the fistula which persisted for six years many small stones, over 100 in all, were expelled. After the spontaneous closure of the fistula diabetes developed and the patient died. Lancereaux's statement that in each attack of colic there is a temporary glycosuria is not borne out by the history of the case now recorded. Very careful and continuous examinations of the urine were made but sugar was never once discovered.

It is probable that the presence of fatty stools may be dependent upon the condition of the gland with regard to its ducts. If two ducts, those of Wirsung and Santorini are both present, as in the normal condition, the pancreatic secretion will not be wholly prevented from entering the duodenum by a calculus blocking the canal of Wirsung. If a single duct is present a stone impacted therein will cause a temporary complete arrest of the outpouring of pancreatic juice.

Treatment.—There is but little to say with regard to treatment. According to the results of the experimental work of Kühne and Lea the subcutaneous injection of pilocarpine incites the flow of the pancreatic juice. A case is reported from Eichhorst's clinic of "undoubted pancreatic lithiasis" in which the subcutaneous injections of pilocarpine were tried. "The attacks of colic disappeared completely and the patient was better than for many months before."

So far as I can ascertain there has been only one case of pancreatic calculus treated by operation. The case is related by Mr. Pearce Gould. The patient was a man, aged 46 years, whose only previous illness was an attack of influenza four years before. In September, 1895, he noticed some failure in health and in November he suffered for a few days from severe pain which he referred to the umbilicus, chiefly felt on walking up hill. He became jaundiced and this persisted until February, 1896, when he came under observation. The liver was then enlarged nearly down to the umbilicus, the gall-bladder could be felt distended as a cylindrical swelling in the right lumbar region, and there was no ascites. The motions were clay-coloured. On Feb. 14th the abdomen was explored. Through the vertical incision to the right of the rectus muscle half a pint of fluid was withdrawn from the gall-bladder by aspiration. A lump was felt at the back of the small omentum which proved to be a coral-like stone in the dilated duct of Wirsung, and other smaller calculi were found and removed. The operation did not relieve the obstruction to the flow of bile and on March 3rd he had an attack of agonising pain in the right hypochondrium. Mr. Pearce Gould reopened the abdomen and with some difficulty was able to feel a stone in the head of the pancreas close to the duodenum, which he removed by incising the pancreas from the front and he was then able to pass a probe through the duct into the duodenum. Soon after the operation the patient vomited bile, the stools became coloured, and bile ceased to flow from the incision in the gall-bladder. Notwithstanding this, vomiting persisted and he died from exhaustion on the twelfth day after the second operation. At the post-mortem examination a little pus was found underneath the gall-bladder and also behind the ascending colon. The pancreatic duct was found to be dilated and ulcerated. There was a hydatid cyst at the liver. The calculus was composed of phosphate and carbonate of lime.

In the discussion which followed the reading of Mr. Pearce Gould's paper at the Clinical Society of London Mr. T. H. Kellock mentioned the case of a man, aged 56 years, who was seized with acute abdominal pain followed at once by jaundice. Two weeks later he had a second attack. When admitted to hospital under the care of Dr. W. M. Ord he was extremely jaundiced and the liver reached from the third rib to below the costal margin. On the tenth day he had a rigor followed by severe pain in the right hypochondrium and three days later he passed a small concretion, and then the jaundice became less marked but he became exhausted and gradually sank. At the necropsy the liver was found to be enlarged and the gall-bladder to be dilated. Embedded in the head of the pancreas in a dilated portion of the duct was another calculus of the size of a cherry stone.

The following case has recently been under my care, and as the condition of pancreatic calculus was diagnosed and successfully treated, a full account of the history may be given. I saw the patient with Dr. H. M. Robertson of Roundhay.

NOTES BY DR. ROBERTSON.

The patient was a married woman, aged 57 years. She had had no children. She was first seen on Sept. 12th, 1901, in an acute hysterical attack. The attack subsiding careful research disclosed a multitude of symptoms chiefly of a neurasthenic type; prominent among these were the gradual and steady loss of health, the loss of weight, and the development of bronzing or pigmentation very similar to that in Addison's disease which was mainly confined to the external surfaces of the forearms, the back and sides of the neck, and slightly round the nipples. A varying but slight amount of this pigmentation dates back 10 years. The patient also complained that for a long time her motions were never properly formed; either she had loose frothy stools with the occasional passing of white membranous pieces like skin, or constipation with the stools in the form of hard pellets; the colour was natural in both cases. Pruritus, both anal and vaginal, was a distressing symptom and the urine, though usually "thick" and small in quantity, was occasionally clear and excessive in amount. By physical examination nothing abnormal could at the time be detected. The patient was a well-nourished woman with a fair amount of fatty tissue, despite the fact that she was seven pounds under her average weight of nine stones and four pounds and that the loss of seven pounds had occurred since the beginning of the year. The heart and lungs were normal. There was no enlargement of the liver or of the spleen. The general average of urine passed was small in quantity, under 30 ounces in 24 hours; it was of relatively high specific gravity and concentration, acid reaction, free from albumin or sugar, but loaded with mixed urates and some crystals of calcium oxalate. Clinical examination of the blood and the blood count gave red cells 96 per cent., or 4,750,000; hæmoglobin 94 per cent.; no leucocytosis, the percentage varying within the normal limits, the leucocyte count being 7000. The blood cells were free from degenerative changes.

With these data a provisional diagnosis was given that all the digestive, urinary, and nervous symptoms could be accounted for by the apparent lithæmia *plus* the unstable nervous equilibrium, and treatment was directed by dietetic and medicinal means towards improving the disturbed chemical and cellular metabolism that appeared to account for her condition. At the same time her husband was advised that one had an uncomfortable suspicion that some serious abdominal disease, probably in connexion with the pancreas, might be present. For six weeks treatment on the above broad lines was carried out with indefinite results. The pruritus was relieved, the condition of the stools and the regular action of the bowels were materially improved, but the old flatulence, indigestion, and slight attacks of colic were more frequent and the amount and condition of urine remained *in statu quo*. She continued to lose weight and strength and the pigmentation increased in area and depth of colour.

On Nov. 4th she had a severe attack of colic, with excessive pain, sickness, collapse, &c., requiring one-third of a grain of morphia hypodermically to obtain relief. The colic was so acute that it might have been either hepatic or renal, but as she had foolishly partaken freely of goose the evening before accuracy of diagnosis was not easy. Dr. T. Churton of Leeds, who saw her with me in consultation on that day, preferred to blame the goose, and after a careful historical survey, physical examination, and mutual discussion, he was of opinion that neurasthenia with hysteria were the more apparent causes of her condition, with the cautious reservation that while no growth or unusual condition could be detected by manual examination of her abdomen; yet there was good reason for being suspicious and careful in one's prognosis. Special measures to meet the nervous exhaustion and general debility were adopted. Rest, feeding, and massage alternated with the faradic current and the intramuscular injections of glycero-phosphate of sodium (Jacquemaire's preparation). This treatment was continued for a month also with indefinite result. In some things there was improvement, but there was still a steady loss of weight, an average of three or four pounds a month, her weight at this time being seven stones and 12 pounds, and persistence, if not increase, of pigmentation. Blood counts and examinations were made fortnightly with special reference to the leucocyte count and qualitative changes in the cells as indicative of malignant disease, always, however, with negative

results, and throughout the whole illness the blood count did not vary outside a 10 per cent. limit.

The urine was tested and microscopically examined each week. During the last three weeks of December there was improvement; the appetite and the digestion became better, abdominal uneasiness became less, the sleep was better and less disturbed, the strength was slowly coming back, and the pigmentation was slightly clearing. But profuse night perspirations ensued which were best controlled by a five-grain tabloid of suprarenal extract, and under its influence the total quantity of urine increased to almost normal. The patient was able to go downstairs and to get outside occasionally, and continued improving till the first week of January, 1902, when she unaccountably began to fall back. A slight attack of colic occurred on Jan. 9th and 24 hours later there was a distinct trace of bile in the urine and a yellow tinge began to appear in the conjunctivæ.

The stools, which had been watched daily for months and frequently examined for meat fibre, &c., still kept well coloured and the jaundice, which was never extreme, varied from day to day and at times disappeared so far as colouring the urine was concerned. Despite the negative results of blood and manual examination I could not but fear from the patient's condition the strong possibility of some malignant development in the region of the head of the pancreas, and wishing the case to be considered from its surgical aspect Mr. B. G. A. Moynihan kindly saw the patient on Feb. 2nd, 1902.

Chloroform was administered as an aid to more efficient examination. After discussing the possible causes Mr. Moynihan gave a diagnosis in favour of chronic pancreatitis, probably non-malignant and possibly due to a pancreatic calculus either in the pancreatic duct or now in, or approaching, the ampulla of Vater. He advised operation as at least a means of clearing up the condition, but did not feel enthusiastic about the result. As the patient and her relatives were at the time averse to surgical interference it was decided to give by the mouth pancreatin and salol and then in four weeks to reconsider the case. On Mr. Moynihan's suggestion a sample of urine was sent to Mr. P. J. Cammidge at Wakefield for special examination relative to the presence of pancreatic disease, and his report was, "Not a typical sample, but affords ample ground to justify a diagnosis of chronic pancreatitis." During the four weeks the patient lost four pounds in weight—being reduced now to nearly six stones—and in view of the steady progress to the bad operation was again urged and arrangements were accordingly made but in the end abandoned. A former medical attendant at this time saw her in consultation and he also advised surgical interference.

Early in April the patient was moved to a hydropathic establishment in the Matlock district to see if change would effect improvement. On the night of her arrival she had a bad attack of colic lasting several hours, with increase of the jaundice and for the first time during her illness the stools were slaty in colour. During her stay of four weeks there she made decided improvement. She gained three and three-quarter pounds in weight; the appetite returned and she began to feel stronger; the jaundice in great part cleared up but the pigmentation remained. The consulting physician in charge wrote "that he was strongly inclined to fear malignant disease, but that beyond some feeling of resistance in the epigastrium he could detect nothing definite, certainly nothing inconsistent with pancreatitis." Two days after her return home she had another attack of colic and at last consented to seek surgical relief, and on May 22nd Mr. Moynihan operated with the interesting result of removing from the duodenum a concretion or calculus of about the size of a French bean.

Several factors stand out as of special interest. 1. The long illness of itself but specially the length of time ere jaundice appeared as proving the real origin of the condition. 2. The value of routine blood examination as an aid to diagnosis in this case as negative of malignant disease, a differential method in obscure conditions hardly appreciated by surgeons. (See Cabot, p. 350. The leucocyte count of three cases of cancer of the pancreas averaged over 17,000.) 3. The peculiar bronzing which might have led one to consider the case as one of Addison's disease, the patient having many other symptoms in common, and later the pigmentation *plus* the progressive emaciation gave the patient the appearance of suffering from some obscure abdominal malignant disease. 4. The origin of the stone.

NOTES BY MR. MOYNIHAN.

I saw the patient on Feb. 2nd, 1902, with Dr. Robertson. To the full and lucid statement which he has given of her condition up to the time I saw her I have nothing to add. The symptoms I had to discuss, the relative value and significance of which I had to determine, were briefly these: steady loss of health, gradual wasting, irregular pigmentation of the skin in patches of the colour of *café-au-lait* (very closely resembling the pigmentation of molluscum fibrosum), persisting attacks of epigastric pain and uneasiness of the type of hepatic colic though less severe and unattended until very late in the history by jaundice which was then always trivial though unmistakeable, and pain passing through from the front of the abdomen to the middle of the back. There was no rigor or any complaint of sensations of heat or cold. The stools were occasionally "frothy" and "greasy." On examination under chloroform some indefinite swelling could be felt above the umbilicus and a little to both sides of the median line, though chiefly to the right.

I considered that the evidence warranted a diagnosis of chronic pancreatitis. To explain the onset of this condition I suggested that a pancreatic calculus was present, that its transit down the canal of Wirsung had been attended by the attacks of epigastric colic, and that as it approached the ampulla an inflammatory condition had been started in the common duct and a slight jaundice had thereby resulted. Upon this diagnosis I felt justified in basing my suggestion for operative treatment. If chronic pancreatitis were found and no cause was discoverable the condition could be relieved by drainage of the gall-bladder; if a pancreatic calculus were found it could be removed either from the pancreatic duct or from the ampulla of Vater, if it had travelled so far. I was bound to admit the difficulties of the case and though I pressed the question of operation I felt that I could give no definite undertaking as to its result. When I saw the patient a second time, after her visit to Matlock, I felt convinced of the approximate accuracy of my former diagnosis and operation was at once accepted. I should like to bear tribute to the support I derived from Mr. Cammidge. His examination of the urine made me feel secure in the diagnosis that I had given of chronic pancreatitis. In other cases before this one, and since, I have derived considerable help from Mr. Cammidge's test. One feature of the case which may, perhaps, be accidental is the invariable slowness of the pulse. The rate was almost always less than 60 and never higher than 64; its character was good.

Dr. Churton tells me that on referring to his notes he finds that the stools were described as being at times "oily," but that he had no opportunity of verifying this observation. The husband of the patient described them to me as "greasy," but the motions that I saw showed nothing unusual.

Operation.—Operation was performed on May 22nd, 1902. The abdomen was opened two inches to the right of the median line by an incision about seven inches in length and the fibres of the rectus were split. On opening the abdomen the gall-bladder at once presented; it was tense, well filled, and free from any adhesion; the cystic duct, hepatic ducts, and common duct were all thoroughly examined, the liver being rotated for that purpose. The ducts were all free from adhesion and nothing abnormal was felt. The head of the pancreas was very much enlarged and hard, the body less so, but still larger and denser than the normal. The chronic pancreatitis affected the whole gland but chiefly the head and in least degree the tail. The duodenum and the head of the pancreas were carefully examined and a small lump was then felt, as it seemed, between the two. The swelling did not feel like a stone and I expressed a suspicion that it might prove to be a growth deep in the ampulla of Vater. I therefore opened the duodenum and exposed the papilla Vateri; this was quite normal in appearance. The lump, however, was felt to be only a short distance beneath the mucous membrane. The papilla was therefore laid open and the cut edges were seized with a small French vulsellum and held apart. At the bottom of the ampulla a small object could be seen and the knife touching it could be felt to be impinging upon soft stone. A small scoop was therefore passed into the ampulla, pressure was made upon the head of the pancreas close to the duodenum, and the stone was lifted out. So far as I could judge—and the ampulla was well opened—the stone lay in the termination of the pancreatic duct with its end projecting into the ampulla.

It was certainly not wholly in the ampulla, for it was not at once exposed on slitting up the papilla; equally certain it was not in the end of the common duct. The duodenum was stitched up with continuous sutures. The gall-bladder was aspirated and drained, and the wound was closed in the usual way. The tube was removed on the seventh day and the wound then slowly healed. The condition of the liver was normal. There were no adhesions around it or any trace of pigmentation.

The pigmentation of the skin is one of the most interesting, and certainly the most obscure, feature of the case. Interstitial pancreatitis and pigmentation of the skin are found associated in the condition described by Hanot as "diabète bronzé," but in addition a deep pigmentation of the liver with hypertrophic cirrhosis and pigmentation of the pancreas and other viscera are seen. In this disease Hanot and Schachmann consider that the primary etiological factor is the diabetes, that a certain alteration in the blood, due to the diabetes, results in a disturbed nutrition of the hepatic cells in which pigment as a result becomes deposited. The carrying of the pigment to the other parts of the body, to the skin and the viscera, is supposed to be in the nature of embolism. Many other theories, carefully enumerated and epitomised by Opie, have been broached, but our acquaintance with the subject is at present vague and distant. The recorded cases of hæmochromatosis do not show an instance of the disease occurring in the female. Within a month of the operation upon this patient the bronzed patches had shown evidence of fading, especially the stained areas upon the wrists and thigh.

Description of the stone removed.—The stone in shape very closely resembles a French bean. It is exactly half an inch in length and about three-sixteenths of an inch in diameter. It is bile-stained on the surface. The stone was cut in two for me by Mr. Cammidge and the pieces were subsequently glued together after the kernel had been removed. Mr. Cammidge reported that the surface layers of the stone "for about one-eighth inch are of a homogeneous consistency and light brown in colour. They leave but little ash on ignition and seem to consist chiefly of cholesterin and bile-pigment with some calcium salts. The central portion is quite different and consists chiefly of hard granules of irregular shape. On ignition they leave a large quantity of ash which seems to be chiefly calcium."

I sent a small portion of the centre of the stone to Dr. J. A. Milroy of Edinburgh who reported as follows: "The stone contains nearly 50 per cent. of calcium carbonate. A small portion of the solution in which the magnesium was estimated was unfortunately used for qualitative testing so that I cannot state the exact quantity of magnesium present. These were the only inorganic substances found. I was somewhat surprised to find phosphates absent. The organic substances consisted almost entirely of proteid. Traces of organic substance soluble in alcohol and ether were present. In the residue from the alcoholic and ethereal solutions cholesterin and fat were the only bodies identified. Purin bases and uric acid were absent. The quantity of the original powder was rather too small to allow of an accurate estimation of the constituents."

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Leeds.

HYPOPLASIA OF THE AORTA AS A CAUSE OF ANEURYSM.

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SOME years ago it fell to my lot as curator of the museum at St. George's Hospital to perform two post-mortem examinations in rapid succession on cases of ruptured abdominal aneurysm, in both of which the most careful inspection failed to find any ordinary explanation of the aneurysm, such as syphilis, atheroma, or strain, but the aorta and large arteries were in a state of hypoplasia—that is to say, constructed upon a small and delicate scale, narrow in calibre and thin in the walls, though in all other respects practically healthy. These two cases put me on the look-out for arterial hypoplasia in general and as a cause of aneurysm in particular, but among upwards of 2500 post-mortem examinations that have been performed at St. George's Hospital since that time, only some three or four cases of hypoplasia have been noticed by myself or succeeding pathologists. One happened to be that of a patient of my own who died from the external rupture of a thoracic aneurysm; another—also a case of thoracic aneurysm—was under the care of Dr. Cyril Ogle, who kindly allows me to publish it. The first three cases have been fully described in the Transactions of the Pathological Society, vols. xlv. and xlix. and need only be briefly recapitulated.

CASE 1.—The patient was a well-built man, aged 29 years, who gave no history of great exertion or strain. The aneurysm, of the size of an orange, occupied the lowest two and a half inches of the aorta and the whole of the right common iliac artery; it proved fatal by rupturing into the peritoneal cavity. The rest of the aorta was almost entirely free from atheroma but unusually thin and narrow, as were also all the large arteries.

CASE 2.—A woman, aged 30 years, died from the retro-peritoneal rupture of an aneurysm which consisted of a fusiform dilatation of the lowest two inches of the aorta and the greater part of the left common iliac artery. Immediately below the origin of the renal arteries the aorta presented a saccular aneurysm of the size of a walnut. A third, of smaller size, was found upon the left renal artery and a fourth upon the superior mesenteric. The aorta was almost papery in its thinness. In the recent state it was fully elastic and faultlessly smooth but so narrow that the thoracic portion would hardly admit the little finger.

In both of the above cases the large arteries were examined microscopically with the result that no fatty or other degeneration was found.

CASE 3.—The patient was a coachman, aged 39 years, who had lived temperately and quietly. There was no history or suspicion of syphilis. The aneurysm proper was larger than a cocoanut and of true saccular form, springing from the first part of the aorta. It had caused absorption of the overlying bones and cartilages and had given rise to a secondary sac immediately beneath the integuments. The fatal hæmorrhage occurred externally from the secondary sac. The aorta was remarkably free from atheroma, of which, indeed, there was no trace except a little roughening near the mouth of the aneurysm. The vessel was somewhat small in calibre and conspicuously thin-walled. It was estimated that at the end of the arch the wall was not more than three-fifths of the ordinary thickness. The various coats were present in normal proportion and no degeneration could be detected under the microscope.

CASE 4.—This case, which I owe to Dr. Cyril Ogle, is of essentially the same kind as Case 3 and need only be briefly related. The patient was an omnibus conductor, aged 31 years, who had been a soldier; he died in September, 1901, from the rupture of a large saccular aneurysm of the first part of the aorta into the right auricle. The post-mortem examination was performed by Dr. R. Salusbury Trevor, who remarked an unusual thinness of the aorta and used the expression "aortic hypoplasia" in the pathological record. Dr. Trevor was under no suggestion from the previous cases and his record fairly stands as the independent observation of a skilled pathologist. Certain cutaneous scars were found which raised a suspicion of syphilis, but of alcoholism or undue strain there was no evidence, clinical or pathological, and the aorta was perfectly free from atheroma. The case, in short, was one of aortic aneurysm in which the initial lesion was possibly syphilitic, but hypoplasia was the dominating influence.

It goes without saying that congenital delicacy of the arteries, when it exists, must predispose to the formation of aneurysm and favour its development, though the influence of this factor has hitherto been almost entirely overlooked. Virchow, indeed, remarks upon the liability of the hypoplasic aorta to fatty degeneration of its middle coat and so to spontaneous rupture and dissecting aneurysm, but he appears not to have met with fusiform or saccular aneurysms of a chronic type in this connexion, nor is there any consideration of the subject in the formal treatises upon aneurysm of the aorta. However, the four cases given above, occurring within ten years in the experience

of a single hospital, suggest that the association of aortic hypoplasia and aneurysm, though rare to be sure, may yet be worth looking for in the future, especially, perhaps, in those cases of aneurysm which are least susceptible of explanation by ordinary causes, such as aneurysms in women and young persons.

As for aneurysms in women, I have consulted the considerable number of reports of cases which are to be found in the works of Hope, Stokes, Walshe, Balfour, and others, and in the Transactions of the Royal Medical and Chirurgical Society and of other societies, but without meeting with any mention of hypoplasia. One thing, however, is very striking about aneurysms in women: they go from bad to worse more rapidly than in men and are much more prone to end in rupture. External rupture in particular is nearly as common in women as in men, notwithstanding the relative great rarity of aneurysm. Stokes relates three cases of external rupture, two of which were in women. Crisp tabulates six, four in men and two in women. The records of St. George's Hospital contain three in men and again two in women. We thus have 14 several cases of external rupture, six of which were in women.

Now women are notoriously more liable to hypoplasia than men and the suggestion presents itself that some degree of hypoplasia, not necessarily to be seen unless looked for, may be the reason for the more untoward course of their aneurysms. And so it may be with children and young persons when they suffer from aneurysm, though here also the published reports are almost absolutely silent as regards hypoplasia. Still, there is on record at least one case which may be quoted as showing an association of hypoplasia with aneurysm. This case is included by Mr. R. W. Parker in his Table of Cases of Spontaneous Extracranial Aneurysm in Persons under 20 years of age.[1] The patient was a boy, aged 16 years, who died from the rupture of an aortic aneurysm into the pericardium. "The walls of the aorta were as thin as paper, soft, and easily torn, but free from every kind of morbid deposit."

In another way the association of aneurysm and hypoplasia is of sinister omen—I mean as regards the prospect of cure by the deposition of fibrin. Arterial hypoplasia has long been credited with a leading place in the rather scanty morbid anatomy of hæmophilia, a disease which modern clinical pathology has proved to depend essentially upon deficient coagulability of the blood. It must be admitted that hypoplasia does not always or even generally imply hæmophilia, but at least it constitutes an ominous link between aneurysm and the possibility of a most undesirable condition of the blood.

In conclusion, I have only to say that this short paper will have served its purpose if it succeeds in drawing attention to an occasional morbid alliance the practical importance of which four cases are all too few to establish.

Chesterfield-street, W.

[1] Transactions of the Royal Medical and Chirurgical Society, 1884.

A PECULIAR CASE OF SCARLATINA HÆMORRHAGICA.

BY VIVIAN CHASTEL DE BOINVILLE, M.B., CH.B. EDIN.

THE following case, on account of the peculiar nature of its course, may be of interest to the readers of THE LANCET, and Dr. N. E. Roberts, visiting physician to the City Hospitals, Liverpool, has sanctioned its publication. The patient was a boy, aged four and a half years, who resided in Liverpool and was admitted to the Grafton-street City Hospital on June 21st, 1902. According to the mother's statement he fell ill on June 16th. The admission thus took place on the sixth day after the onset of the disease, which was characterised by the usual feeling of malaise, headache, and sore-throat, with a cough and pain in the chest, rapidly followed by a diffuse scarlet rash. On admission this rash was still visible but was fading and the fauces and throat generally were congested and foul. During the 24 hours following admission the temperature ranged from 101° to 102·4° F., falling gradually in the course of the next six days to 99·6° on the 27th. On the evening of this day, the twelfth from the onset of the disease, it rapidly rose to 103°, when grain doses of sulphate of quinine were administered every four hours. The temperature then again fell, reaching normal on July 1st.

Thus far the case had assumed a not unusual course. The patient during this period of observation was pale and rather weak, the pulse was somewhat feeble, but there was no reason to expect anything but a favourable recovery. The cervical glands were not swollen. There was neither thus far nor subsequently any albumin or blood to be detected in the urine. On July 2nd, however (and this is the special point in the case), just as desquamation was setting in bleeding from the anterior nares commenced. Hæmorrhagic spots, a dozen or so, and measuring about three millimetres in diameter, appeared on the anterior aspect of the scalp. Similar spots presented themselves in the neighbourhood of the knee-joints. The evening temperature rose to 99·6° and the patient became generally feeble and, in fact, showed a tendency to collapse. Perchloride of iron applied as a styptic to the nose only partially checked the hæmorrhage during its actual application. On the following day an eczematous rash appeared on the buttocks and the spots thus formed bled on the slightest friction. Tincture of hammamelis was no more successful than the former styptic in allaying the obstinate epistaxis. Iron was administered internally and brandy was cautiously exhibited. Posturing and other methods were of no avail in checking the bleeding. It must be remarked that the total quantity of blood lost was very small. The cause of anxiety was the symptom *per se*, suggesting a markedly impoverished or poisoned state of the blood, not an actual loss in quantity. Desquamation, which had commenced on the hands and feet, became entirely arrested. The patient grew progressively weaker and the temperature rose higher—never above 103·2°, however, which it reached on July 6th. Tepid sponging was now employed. On the 7th, at 3 A.M., the thermometer recorded 103°. Tepid sponging was again resorted to, causing the temperature to fall to 98·9°. At 10.30 A.M. the patient vomited, the vomit containing a little unaltered blood. At 11 A.M. he died in a state of collapse.

The interesting feature of the case is, of course, that the hæmorrhagic symptoms did not appear at the onset of the disease as in an ordinary case of scarlatina hæmorrhagica, but at a period when convalescence was to be expected. In other words, a profound toxæmia set in at a time when it was to be supposed that antitoxin in the ordinary course of events would be forming and immunity becoming established. Can it be that nature had, as it were, surpassed herself in her process of healing, that the antitoxins had become excessive, and that a "reactionary anti-toxæmia," if one may use such a term, had set in? Or can it be that, after the supposed toxins had been sufficiently eliminated to permit of a fall of temperature and partial recovery, a fresh supply of toxins hitherto combined with other material or otherwise rendered inert, had suddenly become let loose in the blood and set up a secondary toxæmia?

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VERBAL OBSESSIONS.

BY JAMES SHAW, M.D., M.CH. R.U.I.

MAGNAN[1] defines an obsession as being a mode of cerebral activity in which a word, thought, or image rises into consciousness—involuntarily and without discomfort when physiological, but forcibly and with painful persistence when pathological. Verbal obsessions are those in which isolated words—mostly obscene or blasphemous—constitute the morbid besetment. They should be distinguished from coprolalia, obscene speech; from the blasphematory mania of Verga,[2] which he described as a special variety of obsession taking the form of oaths, blasphemies, or indecent utterances; and from the onomatomania of Charcot and Magnan,[3] in which a word cannot be recollected without a painful searching of the memory, or a word or phrase is ever present in consciousness and *must be emitted at intervals*, its utterance being repressed for a short space

[1] Annales Médico-Psychologiques, Mars-Avril, 1896, quoted by V Bourdin.

[2] THE LANCET, April 20th, 1901, p. 1124.
Annales Médico-Psychologiques, Mars-Avril, 1896.

only at the cost of extreme and constantly increasing mental pain. In my cases the besetting words were never uttered. The words differed from psychical or psycho-motor hallucinations in that they were never spoken of as "voices in the head" nor as "voices" at all. Verbal obsessions may constitute the leading feature of a sort of obsessional aberration, as in the second case below, or an early symptom of a form of insanity, an obsessional melancholia, which appears to me to be as much an entity as hypochondriacal melancholia is. The first case exemplifies the induction of obsessional melancholia by verbal obsessions.

CASE 1.—The patient was an unmarried female, aged 46 years, and had ceased to menstruate for two years. She had always been "nervous," her father had suffered from neurasthenia, and her brother was "nervous." 14 months prior to my first seeing her she had had, as I was informed by her medical attendant, a slight vulvar trouble resembling balanitis in the male. This had been followed by what appeared to have been an attack of influenza, for which she had not sought medical advice. She had become depressed during that attack or soon after it and the depression had been increased by business worries and a monotonous solitary mode of life. When I first saw her the state of her mind had changed very little for about six weeks. Her face was pale with a worried, anxious expression. The left pupil was slightly larger than the right; both reacted to light. Her right hand-grasp was 40 and her left hand-grasp was 20; her pulse-rate was 96. She picked her dress with her fingers incessantly and her feet were in constant motion. Neither these movements nor prolonged walking induced fatigue. Her voice was low, her speech was slow and hesitant, her memory was good, and her consciousness was clear. She had no hallucinations. She said that she was guilty of a great and unpardonable sin. On close inquiry it was elicited from her that the sin was that certain words came into her mind incessantly in spite of herself. These words she did not, and would not, utter. She said they were irrepressible (in her mind), obscene, blasphemous, unutterable, and that the distress occasioned by them caused her to refuse food, prevented her sleeping, and had driven her to make two suicidal attempts. She recovered eventually, convalescence having been preceded by some blurring of consciousness and much increase of motor agitation.

CASE 2.—This case was that of a married male school teacher, aged 33 years. His brothers and sisters were all "nervous," and one sister, also a patient under my care, was irritable, eccentric, incoherent of speech, and possessed of queer ideas almost amounting to delusions. The patient had had influenza four years before my visit and about three years before the latter he had been much worried by an inimical female fellow-teacher. After this quarrel he became weaker and less sociable. Nine months prior to my visit his condition was rendered worse by the death of his brother (from Bright's disease) and his undertaking the cares of the funeral. During the last three months he had deteriorated considerably and had not taught for three weeks. His pulse-rate, when I examined him was 96; his temperature was 98·4° F.; his right hand-grasp was 85 and his left hand grasp was 90 (he was partly left-handed); his cutaneous sensibility, tested with a feather for touch and pain, was good on the forehead and hands, although he complained of feelings of numbness. He wandered about restlessly, putting his hands to his head, shaking his hands and gesticulating in a peculiar way, sometimes as if he were writing words in the air. There was tremor of the fingers. His demeanour and facial expression denoted mental pain, but motiveless laughter was frequent. Consciousness and memory were good, though the patient could not fix his attention. He said that obscene words arose in his mind and he could not repress them. This caused him great anguish, as he and all his family were very religious. He said also that when he looked at anything he could not get the image of it out of his mind (visional obsession). He fancied that fixed or heavy objects, such as pieces of furniture, moved, and he would put out his hand to steady them. This might have been caused by fine ocular tremor. There was, however, no visible nystagmus. On one occasion he asked to have pictures removed from a wall on which there were none. He exclaimed frequently, "Oh, Lord," "Oh, Lord," fell often on his knees and prayed aloud to be delivered from his evil thoughts and their cause—the obscene words. These words he never uttered. He could not sleep without hypnotics and they, when their somniferous effects passed off, increased his agitation. An attempt was made to obtain asylum treatment for him. He was detained a few weeks in a workhouse hospital and then discharged slightly less agitated but with his obsessions as well marked as ever. In that condition he remained when I heard of him two years after.

Taking these two cases as types of two forms in which obsessions are prominent it will be seen that the prognosis as to mental recovery is much less favourable in the aberration almost purely obsessional than in the seemingly more formidable obsessional melancholia with its blurring of consciousness, greater mental pain and diminution of self-control, difficulty of inducing fatigue, and its presentation of a distinct fixed idea or so-called faith-delusion of having committed an unpardonable sin.

Liverpool.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium

RADCLIFFE INFIRMARY, OXFORD.

A CASE OF TUBAL PREGNANCY; LAPAROTOMY; RECOVERY.

(Under the care of Dr. T. L. KENNISH and Mr. R. H. ANGLIN WHITELOCKE.)

AT the present day it is acknowledged that laparotomy is the best treatment in ectopic gestation in almost all cases. The mortality from the operation is surprisingly low—for instance, Professor Mayo Robson had 22 recoveries in 23 cases and Dr. J. W. Taylor[1] had 41 recoveries in 42 cases—that is, a mortality of less than 3 per cent.

The patient was a married woman, aged 28 years. She had had scarlet fever, St. Vitus's dance, and rheumatic fever. Before marriage, which took place on Dec. 27th, 1897, she had been irregular in her menses, but since then and up to the first week in October, 1900, she had always been quite regular. She had had no children or miscarriages. In the third week of December, 1900, she was suddenly seized with severe pain in the left side of the abdomen and was repeatedly sick and fainted. A medical man saw her immediately and gave her morphia hypodermically to relieve the pain. Two days later, as the patient did not improve, another medical man saw her in consultation. Her account is that the diagnosis was "inflammation and stoppage of the bowels." At the end of 15 days (Jan. 2nd) she was conveyed to a neighbouring hospital where she remained until the end of February. Soon after her admission to the hospital she came on unwell—she had not been regular since the first week in October—and passed first a large clot and then several small ones for over a week, the discharge continuing irregularly, not more than two days clear, until two days before leaving the hospital at the end of February. Three weeks after entering the hospital she was, she said, "put under ether and operated on for hæmorrhoids." The bowels were very constipated from the beginning. She had to have repeated enemata; and in the first week the urine was withdrawn with the catheter. After removal to the hospital the pain and sickness continued for six weeks. She was evidently very ill, her relatives being sent for in the belief that she was in imminent danger. She left the hospital on Feb. 25th, 1901, and was taken to her sister's home. Dr. Kennish was in bed at the time with influenza and his locum tenent saw her on the day that she went home. He believed that she was suffering from pelvic cellulitis. Dr. Kennish saw her for the first time on March 13th and after hearing a history of amenorrhœa for two months, followed by collapse and sickness, with later the passage of clots (cast?), and menorrhagia, the symptoms appeared to him to be pathognomonic of extra-uterine pregnancy, with rupture of the sac; and this was confirmed by a subsequent examination.

[1] Extra-uterine Pregnancy, 1899.

On inspection of the abdomen no visible swelling was noticed, but on palpation a distinct swelling of about the size of one's fist was felt in the left iliac region, slightly tender, dull on percussion, and evidently coming out of the pelvis. No movement or sound could be heard over it on auscultation nor could any movement be felt within it. On vaginal examination the swelling felt like a tense cyst in the left fornix and gave one the impression on bimanual examination of being of about the size of a cocoa-nut. The cervix was not patulous and felt normal to the touch; it was drawn distinctly towards the left side—the side of the swelling. The body of the uterus could be distinguished to the right and was not markedly enlarged. No sound was passed. No doubt remained from the history and examination of the nature of the case and Dr. Kennish accordingly asked Mr. Whitelocke if he would kindly take her into the Radcliffe Infirmary for operation.

On admission to the infirmary a bimanual examination revealed the existence of a large cystic mass fixed in the pelvis, adherent to the uterus, extending considerably into the lower portion of the abdominal cavity and pressing unduly on the rectum. The swelling was dull on percussion and somewhat tender to the touch. No movement could be made out in it nor was there a distinct feeling of fluctuation. On describing the state of affairs to the patient she readily consented to undergo an operation. Accordingly, on the succeeding day, after due preparation, and with the strictest aseptic precautions, Mr. Whitelocke opened the abdomen through a linear incision made in the middle line between the umbilicus and the pubes. As soon as the peritoneum was opened there escaped much fluid blood containing many soft and friable clots almost black in colour. These clots floated freely in the cavity, intermingling with the omentum and small intestines. In addition to the dark clots were to be seen others much larger, firm and tough in consistence, resembling in colour a new marine sponge. These were removed from the right side of Douglas's pouch, whither they seem to have gravitated as the result of a former hæmorrhage. They were removed without any difficulty. In all, about one and a half pints of blood were removed from the peritoneal cavity. The mass could then be clearly seen to be of the nature of a tubal pregnancy. The left Fallopian tube was enlarged and lay prone upon the swelling, which protruded into, and was incarcerated between, the layers of the meso-metrium. It stripped up the peritoneum from the bladder in front and from the rectum and posterior wall of the uterus behind, and extended upwards into the left side of the abdominal cavity. The fundus of the uterus lay to the right of the structure. The attachments to the rectum and posterior surface of the uterus were very firm, while there was perfect freedom as far as the small intestines and omentum were concerned.

Finding it impossible to remove quickly the mass by reason of its firm attachment to the bowel, upon which it pressed causing obstruction, and judging that the projecting portion was for the most part made up of the placenta placed uppermost and that the fœtus was below, Mr. Whitelocke passed a large trocar into what appeared to be the amniotic cavity. From this some clear fluid escaped. Following the trocar as a guide, a small incision was made through the placenta and a finger was passed into the space. The manœuvre was instantly followed by an alarming hæmorrhage. Being unable to extract the fœtus which, though disproportionately small, could not be readily brought through the wound in the placenta, Mr. Whitelocke proceeded with as little delay as possible to pack the amniotic space with sterilised gauze. The bleeding, which had been truly appalling, ceased almost at once. The patient's condition by this time was so serious that it was obvious that she could not stand a more prolonged operation. Leaving a piece of a gauze plugging to act as a drain Mr. Whitelocke proceeded as quickly as possible to close the peritoneum. But before doing so completely one and a half pints of warm saline solution were poured into its cavity. This in a very few minutes had the desired effect of increasing the force of the pulse. The wound was closed and the patient was sent back to bed.

The gauze packing was allowed to remain *in situ* for 72 hours. By this time the patient had completely recovered from shock and it was assumed that the sinuses in the placenta had been sealed off and a sinus-track established from the placenta to the skin wound. At the first dressing when the plug was removed only about one drachm of blood escaped. The sinus was kept from closing by the use of a gauze packing and the wound was dressed every 48 hours for some days. Primary union resulted except at the place kept open, and there was never a higher temperature than 100° F. There was no suppuration in the sinus, only a little blood-stained serum escaping for nearly four weeks, when small pieces of placenta, clots, and fœtal remains began to be extruded. This continued in varying quantities for a fortnight or more, but by the end of a month it was so scanty that she was allowed to leave the hospital. This she did on May 10th. By July 15th the wound was quite healed and by a bimanual examination only a small thickening could be detected in Douglas's pouch. The constipation had been quite overcome, the patient was rapidly gaining in weight, and she expressed herself as feeling perfectly well.

The patient went to see Dr. Kennish on Dec. 27th, 1901, on account of a swelling at the site of the operation. This proved to be a hernia, due to stretching of the cicatrix, for which she was ordered an abdominal belt. She was in perfect health and had experienced no trouble of any kind, and had become quite regular again.

Remarks by Dr. KENNISH.—During the last 10 or 12 years a considerable number of cases of this condition have been published and the etiology has been considerably advanced. The present position appears to be that the pregnancy is essentially tubal in origin and that the so-called abdominal form is but an evolutionary stage of the tubal. The possibility of primary ovarian pregnancy has frequently been disputed, but cannot now be denied since the advent of the specimens of Dr. Catherine Van Tussenbroek which have been personally examined and verified by Bland-Sutton and others. The importance of diagnosing the condition at an early period before rupture has taken place is self-evident, but it must be chiefly by accident if it is discovered before rupture or internal hæmorrhage has taken place. The treatment is essentially surgical[2] in all stages with the possible exception of a case when the child has reached a period near a viable age and there is good hope of preserving the lives of both mother and child[3]; then in the absence of immediate symptoms the operation might be delayed. But in any circumstances the risk to the mother must be great in the early period before the fifth month from rupture and hæmorrhage, and after that time, if the fœtus is living, from hæmorrhage at the operation, or if dead from the risks of peritonitis, septicæmia, or suppuration following. On these grounds, and from the evidence that the mortality in the pre-operative days was enormous[4] while under modern aseptic conditions it is comparatively small, the balance is overwhelmingly in favour of immediate laparotomy.

Remarks by Mr. WHITELOCKE.—Through the kindness of Dr. Kennish of Winslow I was enabled to have the care of this case at the Radcliffe Infirmary and to be responsible for the operative treatment. The patient was sent by him as a case of extra-uterine gestation with a clear history of amenorrhœa for nine weeks, symptoms of internal hæmorrhage with collapse on two occasions, and the passage of what was probably a decidua, followed by amenorrhœa for three weeks. On admission she complained of constipation so obstinate as to amount to chronic intestinal obstruction, of pain in the left side of the abdomen, and of sometimes having difficulty in passing urine. A history so clear and definite taken together with the local condition would seem to have rendered the diagnosis one of simplicity, yet the intestinal symptoms, obstinate constipation, &c., led those who saw the case first even to operate for piles.

Anatomically the case was undoubtedly one of gestation in the left Fallopian tube. Rupture occurred the first time at the ninth week. The shock and collapse from loss of blood seem to have been severe and her life had apparently been despaired of, yet she recovered and the embryo became extruded between the layers of the meso-metrium with the placenta uppermost. The fœtus still surviving the mass increased in size, stripping the peritoneum from the bladder, uterus, and rectum, and becoming so adherent to the last viscus as to cause intestinal obstruction. Between the fourth and fifth months the placenta was pushed up into the abdominal cavity, and then there seems to have been another extensive hæmorrhage into it. The fœtus remaining in the meso-metrium filled up the left side of Douglas's pouch and pressed upon the viscera, causing constipation and difficulty in urination. The placenta was much the larger in proportion to the fœtus.

[2] Initiated by Lawson Tait, Brit. Med. Jour., 1884, ibid., 1885.
[3] Pozzi's Gynæcology, vol. iii., p. 197, &c.; Sydenham Society, 1893.
[4] Bernietz and Goupil, vol. i., p. 235; Sydenham Society, 1866.

The operation presented difficulties. To begin with, the patient was in a precarious state from loss of blood and continued confinement to her bed. The clearing-out of the blood-clots from the abdomen took some little time and probably increased the shock. The placenta being uppermost and adherent to the bowel it was impossible to remove it entirely or to reach the fœtus without passing through its structure. This proceeding caused alarming hæmorrhage, which, however, readily ceased when the cavity was plugged. The collapse was much diminished by the use of hot saline infusions and injections at the time of operation and afterwards. By keeping the sinus open for weeks and treating it thoroughly aseptically pieces of the mass were extruded piecemeal and satisfactorily. I am of opinion that if any more time had been lost in trying to remove either the placenta or the fœtus the patient must have died on the table; that the expedient of stuffing the cavity rapidly with sterilised gauze was a happy one, since the bleeding ceased at once; and that the subsequent drainage through a well-established sinus was a less dangerous yet equally effective means of checking the gestation and removing its ill-effects.

Considering the extreme danger of hæmorrhage from a tubal pregnancy bursting into the peritoneum during the advanced stages of gestation, especially when the placenta is placed uppermost, either when left alone or when dealt with by the operator, the termination of this case was fortunate. The arguments for incising and draining in these desperate cases rather than attempting to remove the placenta at one sitting seem to be supported alike by the inherent difficulty of the operation on the one hand, and the almost absolute certainty that the placenta will disappear in time if left alone, provided the fœtus perishes From the experience gained in this case I am fully convinced that the destruction of the fœtus and the subsequent drainage constitute a safer procedure than that of attempting the removal of an adherent placenta, provided thorough aseptic principles are carried out. The marked symptoms of intestinal obstruction were a troublesome complication of the condition, and of themselves would have sooner or later demanded the serious attention of the surgeon.

Reviews and Notices of Books.

Charles Darwin: his Life Told in an Autobiographical Chapter and in a Selected Series of his Published Letters. Collected by his Son, FRANCIS DARWIN, Fellow of Christ's College, Cambridge. London: John Murray. 1902. Pp. 348. Price 2*s.* 6*d.* net.

THIS is an admirable book which should be read by all medical men and by all those who are interested in the progress of science. The great work done by Charles Darwin is, of course, acknowledged by everyone and no one with any knowledge of the history of the advances made in science during the last century could do otherwise than assign to him a prominent place amongst the greatest men of his time. It is, however, doubtful if more than a very small minority of those who are ready to accept these statements as truisms, could give a rational account for the faith that is in them on these points.

Most people have, in fact, accepted the doctrines which have been set before them and they know of Darwin and of his work only by reputation. Before the publication of this book a busy man might readily excuse himself on the ground that he had no time to study the question for himself. For many readers biographies are usually too long. In this volume, which the author says is practically an abbreviation of the "Life and Letters," his aim has been to retain as far as possible the personal parts of those volumes. The book contains Darwin's autobiography and reminiscences of him by his son. There are chapters on his life at Cambridge and on the voyage of the *Beagle*, and these are followed by a selection of letters connected with the great work of his life.

The autobiography is intensely interesting and the reader will immediately see in it that Charles Darwin was not only an extremely genial, kind, and loveable person, but that he had also a keen sense of humour and was by no means dull. The happiest part of his time, he said, was that which he spent at Cambridge, but in later life, in his autobiographical notes, he was inclined to speak as if he had wasted his time there; but at the date at which he wrote, he was, according to his interpretation of the Ouless portrait, "a very venerable, acute, melancholy old dog," and his remarks on his earlier adventures are no stronger than an acute old gentleman might fittingly make for the benefit of his family for whom they were written.

At one time Charles Darwin's father thought that he cared for nothing but "shooting, dogs, and rat-catching," and that he would be a disgrace to himself and to all his family. He did, in fact, become an excellent shot and whilst he was at Cambridge he adopted an unusual method of improving his eye. He got a friend to wave about a lighted candle, at which he fired with a cap only on the nipple of his gun. When the aim was true the little puff of air put out the light. Darwin's tutor thought it a remarkable thing that he should spend hours in cracking a horse-whip in his rooms. He was very fond of hunting and he naturally got into a sporting set. At the same time he learned something about art, was fond of music, and collected beetles. The most important turning-point of Darwin's life was undoubtedly his appointment as naturalist to the *Beagle* which sailed for the Southern Seas under the command of Captain Fitzroy.

Darwin's character became manifest by the way in which he won the respect and the love of those who went on this expedition. The commander must have been a trying companion at times, especially in the early part of the day, and the first lieutenant, Wickham, who was of course responsible for the smartness of the ship, sometimes objected to the results of the manipulative parts of Darwin's scientific investigations when his specimens littered the decks. Lieutenant Wickham considered it "d——d beastly devilment," and said: "If I were skipper I would soon have you and your d——d beastly mess out of the place." To the mere "scientist" such language might have been considered opprobrious, but on the *Beagle* they jogged on very well together, the captain keeping all smooth "by rowing everyone in turn." The voyage of the *Beagle* lasted for nearly five years, and off the coast of Chili Darwin came across a curious form of barnacle, an incident, as it afterwards turned out, which profoundly affected his life.

In 1846 he began a serious study of barnacles (cirripedia), which occupied him for eight years. This prolonged and laborious work gave him the training of a scientific naturalist, and after it the work which he did became easier to him. Sir J. D. Hooker recognised three stages in his career as a biologist; he was first the mere collector at Cambridge; secondly, the collector and observer whilst on the *Beagle* and for some years afterwards; and thirdly and lastly, the trained naturalist after, and only after the cirripede work.

Much of Darwin's later work had reference to problems in botany, and he undertook these investigations untrammelled by the dead weight of technicalities which have deterred so many men who have commenced the study from pursuing it. Darwin, who disclaimed any right to be regarded as a "professed botanist," made some of the greatest discoveries of the last century. His intellect had not been dulled or his interest in natural phenomena quenched by following the botanical "scientists." "He turned his attention to plants doubtless because they were convenient objects for studying organic phenomena in their least complicated forms, and this point of view," says Sir William Thiselton-Dyer, "had something of the amateur about it." He had at least the

advantage of having an open mind, "for from not being till he took up any point familiar with the literature bearing on it, his mind was absolutely free from any prepossession."[1]

The history of the inception of the growth and of the writing of the "Origin of Species," of the publication of the book, of its first reception and of the spread of its teaching is clearly and concisely given in the present volume. Charles Darwin was a man of peace who hated controversy and there can be no doubt that the book would not immediately have produced the enormous effect which it did had it not been for the vigorous championship by Huxley and the most injudicious and unfortunate attack upon it by Samuel Wilberforce, Bishop of Oxford, at the meeting of the British Association in 1860. By a strange series of chances this proved to be a great day in the history of science. Huxley had not intended to go to the meeting; he despised Wilberforce, he thought the audience incapable of forming a correct judgment on the question at issue, and he had not great confidence in himself as a speaker. The incident is worth recalling. Towards the end of his speech Wilberforce said that he would "like to ask Professor Huxley ..... is it on his grandfather's or his grandmother's side that the ape ancestry comes in?" Huxley's spirits had risen when he found that the Bishop was profoundly ignorant of his subject, and on hearing this insolent question, he said to Sir Benjamin Brodie, "The Lord hath delivered him into mine hands." He saw that the game was his. In reply to the Bishop, Huxley said that in his opinion a man had no reason to be ashamed of having an ape for his grandfather. "If there were an ancestor whom I should feel shame in recalling, it would be a man—a man of restless and versatile intellect, who, not content with success in his own sphere of activity, plunges into scientific questions with which he has no real acquaintance, only to obscure them by an aimless rhetoric and distract the attention of his hearers from the real point at issue, by eloquent digressions and skilled appeals to religious prejudice." In the course of the debate, Admiral Fitzroy remarked that he had often expostulated with his old comrade of the *Beagle* for entertaining views which were contrary to the first chapter of Genesis. There is little cause for wonder that the Oxford meeting of the British Association did much to spread the teaching of Darwin and from that time no eminent English ecclesiastic has openly attacked the teachings of modern science.

Mr. Francis Darwin's book shows that Darwin must have been a man of angelic temper. He went so far as to allow his morning studies to be interfered with by members of the household who entered his room for a foot rule or for a piece of sticking plaster. The patience he displayed under such provocations is truly wonderful. It seems curious that a man of his intellectual capacity should have had confidence in water quacks; he suffered "cures" both at Waverley in Surrey and at Malvern.

The book is extremely well written; it is sympathetic and candid. It deserves to be read carefully. Those who have not time to give the book a prolonged study would do well to read the autobiography (Chapter 2), the reminiscences (Chapter 4), and the chapters which relate to life at Cambridge and on the *Beagle* (Chapters 5 and 6). In regard to the letters which appear towards the end of the work all of them contain matter worth reading, and this part of the book may be opened at random with the certainty of finding something of human interest. Of few books can such a thing be said. The volume is well printed and has a good index and an excellent reproduction of a photograph of Darwin taken by the late Mrs. Cameron.[2] Its price, half-a-crown, puts it within the reach of everyone, and it is a book worth keeping.

La Santé de l'Ecolier. By Dr. C. DELVAILLE and Dr. A. BREUCQ. Paris: Fernand Nathan. Third edition. 1902. Pp. 231.

THE need in France for a work on school hygiene, such as that before us, is probably more urgent than in this country, for to a large extent the natural instinct for physical recreation which is so characteristic of English school-boys and in a lesser degree of English school-girls also, constitutes an effective prophylaxis against the evils which inevitably occur from the close segregation of a large number of children in class-rooms. In France hygienic methods have not heretofore received the attention which they have in this country, and with a declining population and a low birth-rate it is a matter of national importance to protect in every possible way the health of the rising generation. The fact that French children take little delight in organised games renders the task of maintaining discipline during school hours a doubly difficult one and at the same time makes it all the more necessary to press into the service of State pedagogy every device of practical hygiene which can better the conditions of school life. This little treatise has been mainly written for the use of teachers in Government schools or for those who are concerned with disciplinary management. It contains chapters on a variety of questions affecting the personal hygiene of the student, the care and examination of the organs of special sense, and the structure of school buildings and of class-rooms, their lighting, decoration, and furniture. To the chapter on physical exercises is apportioned a totally inadequate number of pages—a number, however, which is possibly commensurate with the estimation in which this department of education is held in France. Gymnastics, military drill, skipping, and bicycling (the last-named is mentioned as a new form of exercise since the publication of the last edition) are practically the only inducements held out for the physical recreation of the scholar. If such be the programme of amusements offered to the children of France by those who are responsible for the direction of these matters it is little to be wondered at that the enterprise of youth discovers other and less healthy outlets for its energies. The subjects so far mentioned are classified collectively as branches of school hygiene and are described in Part I. Part II. is concerned with the early symptoms of such contagious diseases as are incidental to school life and with the means by which they may be detected and treated. Part III. describes first aid in cases of emergency, while the fourth and final part, which will be of little interest to English readers, deals with the official notices which are required by the Department of Education to be posted on the notice-boards of the schools for the efficient safeguarding of the health of scholars. Although in many respects this little volume is quite inapplicable to the conditions of school life as existing in this country, it nevertheless contains many instructive suggestions for the maintenance of moral discipline which is such an important feature in the successful management of children.

Elementary Ophthalmic Optics, including Ophthalmoscopy and Retinoscopy. By J. HERBERT PARSONS, B.S., B.Sc. Lond., F.R.C.S. Eng., Curator of the Royal London Ophthalmic Hospital. London: J. & A. Churchill. 8vo, pp. 162. 1902.

THE object of this well-written work is to enable the student to comprehend the principles which guide him in the

[1] Charles Darwin. Nature Series. Thiselton-Dyer, quoted on p. 298.

[2] This illustration, the author says, was taken in the year 1868, "by the late Mrs. Cameron, reproduced in heliogravure by the Cambridge Engraving Company for the present work," Appendix II., p. 332.

diagnosis of errors of refraction, in the application of the ophthalmoscope, and in the employment of that mode of determining the refraction of the eye termed "retinoscopy." It is divided into 11 chapters which are successively devoted to the consideration of Light, Reflection, Refraction, Lenses, the Homocentric System, the Dioptric System of the Eye, Ametropia, the Ophthalmometer, the Ophthalmoscope (which occupies two chapters), and Retinoscopy. To read this book with advantage it is necessary that the student should possess some knowledge of trigonometry and algebra in order that he may follow the author's demonstrations, but scarcely more is demanded than a lad from the upper forms of a public school has acquired. Several figures are introduced into the text and these figures the reader should construct for himself. Many questions involving a knowledge of the laws of optics for their solution present themselves in the selection of glasses in ametropia, in the determination of the position of foreign bodies in the transparent media, and in the explanation of the phenomena observed in retinoscopy, and it would be well if all who intend to practise ophthalmic medicine and surgery were to make themselves familiar with the fundamental principles of optics. The importance of this knowledge has been clearly recognised by the opticians, and it is only necessary to point out that such knowledge forms part of their examinations and that instructive and sometimes very able articles, essays, and answers to inquiries are given weekly in the well-conducted but thoroughly business journal the *Optician*—answers that, we venture to say, could be given by but few of those students who leave our ophthalmic wards.

Religio Medici, Religio Scientiæ, Religio Vitæ. By a Student of Science and Medicine. 1849-99. London: Charles Good and Co. 1902. Pp. 216. Price 3*s.* 6*d.*

ALTHOUGH of a small size this book contains a great many words, the type being small. We are led to refer to the large number of words because the main impression left by the book is that of a superfluity of language. And this is in spite of the fact that the writer has obviously spent much time in reflection and no little time in observation. Unfortunately, with the gifts of industry and meditation he does not combine that of clearness either of thought or of expression; moreover, his judgment appears to us to be often incorrect. The main thesis of his work is the absolute separation of all that is living from all that is not living. As a corollary of this separation the author to his own satisfaction, but certainly not to ours, appears to deduce the fact of a divine act of creation. We fear that men of science who take pleasure in pondering upon the mysteries of religion and of its relation to their own domains of thought—and there are many such men—will find little help from this Religio Medici. Nevertheless, the work contains some suggestive passages, gives evidence of considerable labours, and has, we may hope, provided no little consolatory meditation to at least one scientific gentleman. For ourselves, we feel after reading it like him who

> "..... heard great argument
> About it and about; but evermore
> Came out by the same door where in I went."

LIBRARY TABLE.

Medical Lectures and Aphorisms. By SAMUEL GEE, M.D., F.R.C.P. Lond., Honorary Physician to H.R.H. the Prince of Wales and Physician to St. Bartholomew's Hospital. London: Smith, Elder, and Co. 1902. Pp. 296. Price 6*s.*—This little volume contains a miscellaneous collection of lectures and a number of "Clinical Aphorisms from Dr. Gee's wards collected by Dr. Thomas J. Horder." The book has no preface and it is not stated whether Dr. Gee is what is called "personally responsible" for the correctness of the aphorisms. Some of them should, we think, be read as apocrypha and we would not apply them all exactly as they stand "to establish any doctrine." The publication of the aphorisms will be of interest to Dr. Gee's old pupils and may well serve to recall the occasions on which the author delivered them. Many of Dr. Gee's contemporaries may also be pleased to see the book. For the majority of students the aphorisms are too condensed for easy digestion, but there are among them many wise words. We give one brief quotation on a matter the importance of which is usually under-estimated, especially by the more easy-going members of the medical profession. "The risk run by bad sleepers arises not so much from want of sleep as from the temptation to fly to narcotic drugs: hypnotic is nothing but an euphuism for narcotic: the mischief lies in remedies much worse than the disease." Of the lectures, those on Asthma, Bronchitis, and Tubercular Peritonitis are perhaps the best, and the one on Sects in Medicine the most interesting. The book will prove of most interest to those who have had the most clinical experience. It is extremely suggestive.

Questions and Answers embracing the Curriculum of the Dental Student. By FERDINAND J. S. GORGAS, A.M., M.D., D.D.S. London: Rebman, Limited. 1902. Pp. 531. Price 25*s.* net.—This book consists of over 500 pages of printed matter devoted entirely to questions and answers in the various subjects embraced in the dental curriculum. In America books of this character seem to find favour but they are, we think, of little value from a true educational point of view. Text-books should give the student a clear account of the ground-work of the subject treated and should make him think for himself; books of the character of the one under notice tend to make the student's learning of a parrot-like type. The printing and general "get up" of the volume are good and in addition to the ordinary index there is one arranged according to subjects.

The Roll-call of Westminster Abbey. By Mrs. A. MURRAY SMITH. With Illustrations and Plans. London: Smith, Elder, and Co. 1902. Pp. 418. Price 6*s.*—Mrs. Murray Smith has produced a charming and instructive book at a very appropriate time. Bound, by the courtesy of His Majesty's Office of Works, in a cover which reproduces the blue and gold of the hangings with which the Abbey is to be draped at the Coronation of King Edward VII., this work makes a graceful gift for anyone who wishes to present a friend with a fitting memorial of the Coronation year. Moreover, the book itself provides a delightfully easy road to a very considerable knowledge of English history. We can imagine no more becoming volume for a school prize in history. Mrs. Murray Smith's writing gives that expression of ease which comes only from an author who is dealing with matters which are near to his or her heart and with which he or she is on the closest intimacy. That such is the relationship between Mrs. Murray Smith and Westminster Abbey with its numberless interests her previous works have, indeed, already assured us. To every Londoner who does not know the Abbey as he should and to every "country cousin" or foreigner who seeks a knowledge of England's Valhalla we can recommend no more pleasant, no more profitable companion, than this work of Mrs. Murray Smith.

The Tale of a Field Hospital.—Messrs. Cassell and Co. have issued a cheaper edition of Sir Frederick Treves's amusing and yet pathetic little work. The price of the first edition, a review of which appeared in THE LANCET of Dec. 1st, 1900, p. 1533, was 6*s.* The price of this cheaper edition is 3*s.* 6*d.* All the illustrations which appeared in the first edition are reproduced in the present one.

JOURNALS AND MAGAZINES.

The Quarterly Journal of Microscopical Science. Edited by E. RAY LANKESTER, F.R.S., with the coöperation of

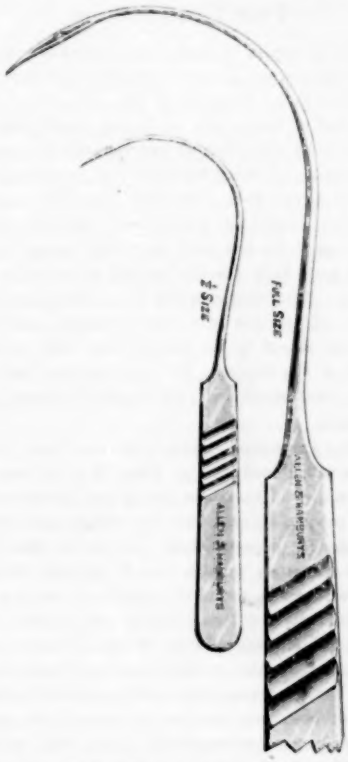
ADAM SEDGWICK, F.R.S., W. F. R. WELDON, F.R.S., and SYDNEY J. HICKSON, F.R.S. With Lithographic Plates and Engravings on Wood. London: J. and A. Churchill. New Series, No. 181 (Vol. xlvi., Part 1). July, 1902. 8vo, pp. 143. Price 10s.—The memoirs contained in this Part are: 1. On a Free Swimming Hydroid, Pelago-hydra Mirabilis, n. gen. et sp., by Arthur Dendy, D.Sc., F.L.S., Professor of Biology in the Canterbury College, New Zealand, with two plates. The specimen was picked up on the seashore at Sumner, a small watering-place near Christchurch on the east coast of the south island of New Zealand. It was translucent and of a pale-blue colour. Placed in water it presented a large balloon-like structure or "float" about an inch in diameter, with tentacular motile processes and a proboscis which hung vertically and was about half an inch in length with a mouth at the extremity. The surface of the float presented numerous branching processes or "stolons" which bore groups of small medusoids. The organism had a complex internal histological differentiation. The genus is closely related to the corymorphinæ of Delage and Herouard. 2. Studies in the Retina: Parts 3, 4, and 5, with Summary, by Henry M. Bernard, M.A. Cantab., with three plates. Mr. Bernard regards the functional retina not as a structure built up of so many cells, each with some definite and permanent morphological value, but as a continuous cytoplasmic reticulum in which nuclei are suspended, and the nuclei are not stationary. The rods he regards as protoplasmic vesicles thrust out against the pigment cells, which absorb the pigment granules and clarify them; the refractive contents of the rods stream away through the retina. The cases differ in the different classes of the vertebrata, but in the primates they are merely rods with swollen inner limbs. The refractive matter which fills the outer limbs of the rods is absorbed pigment, which is usually, but not always, clarified during the process of absorption. 3. Notes on the Relations of the Kidneys in Haliotis Tuberculata, &c., by H. J. Fleure, B.Sc. Aberystwyth, with a plate. 4. Notes on the Development of Paludina Vivipara, with special reference to the Urino-genital Organs and Theories of Gasteropod Torsion, by Isabella M. Drummond, with two plates. 5. Is Chemotaxis a Factor in the Fertilisation of the Eggs of Animals? by A. H. Reginald Buller, B.Sc., Ph.D., Lecturer in Botany at the University of Birmingham.

The Veterinarian for July is deficient in original articles, being largely composed of summaries or extracts. It commences with a chapter from Mr. Dollar's work on Veterinary Surgery and is followed by an extract on Verminous Pleurisy in the Pig taken from the report of the chief veterinary officer to the New Zealand Government. This is succeeded by a continuation of Professor Mettam's report upon White Scour and Lung Disease in Calves, and another article on the Effects of the Liver Fluke upon Cattle, Sheep, and Swine. The Principal of the Lahore Veterinary College (Captain Perse, I.C.V.D.) contributes an article on Suppurative Hepatitis due to Masses of Inspissated Bile, and Professor Duncan of the Ontario Veterinary College gives the result of his observations upon the weight of the kidneys in the horse. Major Ringe, I.C.V.D., reports upon the use of the inseminator in 26 mares, the results being entirely satisfactory, as in 19 cases pregnancy was attained. Extracts from continental journals and a copy of the New Army Veterinary Warrant conclude the number. In regard to the latter there is dissatisfaction expressed throughout the veterinary profession; the slow rate of promotion and the decrease of pay, the invidious compound title and the want of a proper hospital staff being the main points of issue. The lack of response to an appeal for candidates to this branch of the service shows that it is very unpopular with the younger men.

New Inventions.

A NEW FORM OF PERINEUM NEEDLE.

THE ordinary form of perineum needle is not well adapted to the precise needs of the situation. Most of those which I have seen are well curved; but, curiously enough, the curve is posterior to the handle, whilst towards the point the needle is nearly rectangular. These defects greatly diminish its usefulness and I have often wondered why the instrument was made in this shape. In the needle made for me by Messrs. Allen and Hanburys, and here illustrated, the curve



is anterior to the handle and is prolonged to the point. With this instrument complete and accurate apposition of the margins of the laceration is readily obtained. The difficulty often experienced in accurately placing the point in the right margin (when the needle is underneath the left margin and the base) practically disappears. One practical detail, however, needs attention. When the point is to be inserted in the left margin the handle must be well depressed to allow of the needle embracing the margin and the base; this being effected, the smallest amount of skill ensures the accurate inclusion of the right margin. If those accustomed to the old form will try this form of needle its advantages will, I think, be appreciated.

RALPH VINCENT, M.D., B.S. Durh., M.R.C.P. Lond.,
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Harley-street, W.

NORTH DEVON INFIRMARY, BARNSTAPLE.—The annual report of this institution, which has just been issued, shows that for the year ended June 30th last the income amounted to £2135 and the expenditure to £2564. At the beginning of the year there was a favourable balance of £139, and after £250 had been taken from the reserve fund the 12 months closed with a deficiency of £40.

THE LANCET.

LONDON: SATURDAY, AUGUST 9, 1902.

The Coronation.

THE 9th of August, 1902, will be observed throughout the British dominions and wherever throughout the world British subjects are to be found as a day not only of national rejoicing but of deeply felt relief and thankfulness. If in THE LANCET of June 28th we had ventured to predict that the Coronation of King EDWARD VII. would take place within six weeks from that date those best acquainted with the possibilities of surgery and convalescence would have held us to be over sanguine, while laymen would for the most part have frankly refused to entertain such a suggestion. Nevertheless shortly after these pages are in the hands of our readers the long expected ceremony at Westminster should be an accomplished fact, while many thousands of His Majesty's loyal subjects have been assured by ocular demonstration of their monarch's return to health and strength.

Had the Coronation taken place on June 26th, the date originally fixed for it, King EDWARD and Queen ALEXANDRA would have been loyally and joyfully welcomed in their passage to and from the Abbey and during the more extended progress then planned for the following day. We can safely predict that the warmth of the greeting that will now be accorded to them will be of a different order, and that a different feeling will underlie it. The details of His Majesty's illness, of the operation performed upon him, and of his convalescence have been followed by high and low in accurate and candidly written bulletins, and these have been supplemented by such further particulars as we and our contemporaries have been enabled to give. As a result there has been impressed upon the minds of all the feeling that their King has gone through a period of great danger and acute bodily suffering, coupled with the knowledge that he has faced the one and endured the other with that courage and determination which Britons delight to honour under a monosyllabic definition as British "pluck." It was this pluck that caused him to fight against his illness until further delay would have been fraught with certain and imminent danger to life; while his reluctance to give way was caused, not by any physical dread, but by sheer sympathy with his subjects in the disappointment and inconvenience which postponement at the eleventh hour would, he knew, inevitably entail upon them. Queen ALEXANDRA ever since she was first hailed by her future subjects as her husband's bride has occupied a prominent place in their affections, but on the day of his Coronation she comes among them with her recent sorrow and anxiety fresh upon her, and the knowledge of the devotion with which she has aided in the nursing of her Royal Consort will find its expression in the enthusiasm which will acclaim her appearance.

We have referred to the episode, now fresh in the minds of all, as a period of great danger to our King. Our medical readers know well the full measure of that danger, but in the matter of the King's health we are aware that we are addressing many who are not of our profession. We wish none of those who laud His Majesty's courage and give vent to loyal expressions of congratulation upon his recovery, to regard the incident of his illness as one only of pain, inconvenience, and disappointment simply because no untoward symptoms followed the operation and because the subsequent restoration to health has been rapid and unchecked. The peril through which our Sovereign has now safely passed was very real and the danger was not limited to the days preceding operation or to the operation itself. The almanack reminds his subjects that the King was born in 1841, and the artificial habits of life almost inseparable from modern existence in the more exalted or wealthy state of society are not the best possible prelude to an ordeal such as that through which His Majesty has come unscathed. While the sinister reports concerning the King's condition were ludicrously false, we never attempted to disguise the fact that the danger was very real. Those who let their memories travel back a few weeks will remember the intense anxiety which was felt by them during the week which should have been one of national rejoicing and festivity, and will perhaps recall almost with a smile the terrible rumours which were then circulated. We would impress on them that it was a time when anxiety might well be felt and expressed without those expressing it giving ground for any charge of pessimism, although it will be said, to the credit of the nation, that the public feeling was always one of dignified patience and hopefulness: the expression of national anxiety never suggested the smallest approach to panic or visible excitement. It was not forgotten that to a sound constitution King EDWARD has always added a fondness for the out-of-door amusements and hardy exercise to which his subjects, whether inhabitants of cities or not, are devoted. And while the King has won popular affection as a sportsman he has no doubt done much to maintain the vigour of body with which nature has endowed him.

To the medical profession it will always be a source of congratulation and pride that the saving of the life of the King should have afforded to the world a conspicuous example of the attainments of modern professional skill. For over and above the fact of his kingship the King throughout his career has at all times used his great influence to the fullest extent, and in the most practical way open to him, for the benefit of the sick and maimed among his subjects, to procure them such aid as that which has now been afforded to himself. He has been a true friend to medicine because a true friend to the sick. On countless occasions, and notably in the institution of the Hospital Sunday Fund selected by him to commemorate the long and beneficent reign of his revered mother Queen VICTORIA, he has gone out of his way (to use a popular expression)

to show his interest in hospitals and their work. He has now reaped what he has sown, and the knowledge and skill gained in those hospitals which he has helped and encouraged have done what knowledge and skill can do towards the saving of his life. The Coronation of King EDWARD and Queen ALEXANDRA would have been in any circumstances a great national occasion, unique in the experience of all but a few of their subjects. As it is it will be one unique in the experience of the world, an occasion of joy and demonstrative loyalty, but above all of relief and thankfulness, and of warm congratulation and welcome to our King and Queen. GOD save them both!

The British Medical Association: The Address in Obstetrics.

FEW addresses on a special subject are likely to be read with more profit than the Address in Obstetrics by Dr. WILLIAM JAPP SINCLAIR, which we publish in full at page 341. The subject of the address is "Carcinoma in Women, chiefly in its Clinical Aspects," and Dr. SINCLAIR claims for his subject the special interest that if the riddle of cancer is to be solved there is no form of that dread disease which is more likely than carcinoma of the uterus to lead to the explanation of the etiology of cancer.

The frequency of carcinoma of the uterus and the pitiful character of its course from the social point of view lend it an interest and a pathos almost entirely its own. It affords also a promising field of clinical research from the extreme commonness of the disease, from the comparative similarity pervading the cases amidst individual differences, and from the facility with which operative and other measures can be employed. But most of all, perhaps, should carcinoma of the uterus claim especial clinical attention from the extreme importance of early diagnosis and from the encouraging results which surgery offers when careful clinical examination places patients sufficiently early within the reach of hopeful operative interference. If it enforced no other doctrine Dr. SINCLAIR'S address would repay careful reading for the emphasis with which he preaches this great lesson: that physical examination must follow immediately on the practitioner's part when he is confronted by a patient whose age and symptoms render the existence of cancer of the womb in the least probable. Dr. SINCLAIR is not of that school which takes a pessimistic view of the doings of surgery in this particular region. True, he sees little encouragement in the recent radical operations by which an extensive dissection of the contents of the pelvis, with removal of glands and lymphatics and re-implantation of ureters damaged by the way, seeks to ensure no recurrence of the disease. Such an operation, if it removes all the disease, unfortunately also removes all chance of a comfortable existence if not of existence at all. Such irrational and unlimited proceedings do not appeal to Dr. SINCLAIR. Nor have their results any encouragement to offer to the judicious observer. From the operation of vaginal extirpation, however, results of constantly increasing hopefulness are now obtained, and it is upon this operation, supported by the all-important early diagnosis, that Dr. SINCLAIR bases his claim for an improved future as regards the treatment of cancer of the uterus. His figures show that at present we in Great Britain have not yet reached the position of success, as gauged by the figures, that has been reached by surgeons on the continent. But early diagnosis of a large percentage of cases of cancer of the uterus will assuredly be followed by results as good as those shown by our continental *confrères*.

Dr. SINCLAIR believes, as a matter of fact, that further scientific knowledge of the exact nature and of the true cause of cancerous disease awaits rather scientific clinical observation than purely experimental or microscopical work. What may be termed the destructive part of his address is occupied with a critical survey of the results which have been obtained in these fields in the search for a fuller knowledge of the cause of carcinoma. Dr. SINCLAIR places the value of microscopical and inoculation work in the investigation of cancer of the uterus far below the value of minute clinical investigation, and this he does without belittling the services of bacteriological work in other directions. It is to clinical investigation that he strenuously directs the attention of practitioners and it is to this, the practical, the hopeful side of his remarks, that we are particularly drawn. We would not, any more than would Dr. SINCLAIR, for one moment undervalue the industry, the honest endeavour, and the talents that have embellished the labours of scientific explorers in the domain of clinical pathology. But we may well ask with him, "What have investigations and researches into the etiology and pathology of cancer done for clinical gynæcology?" More urgently still we would ask, What experienced gynæcologist can safely trust to the microscope and the microtome when his own finger and eye do not guide him in the diagnosis of cervical cancer? And is it not of infinitely greater importance that the practitioner of medicine should realise the importance of understanding the bearing of clinical facts, should grasp the immense influence of early examination, and should reap the knowledge that comes from an educated finger rather than that he should be aware of the possible value of obtaining a small specimen for microscopical examination? We trust that Dr. SINCLAIR'S address will awake many of our readers to fresh efforts in investigating every clinical fact that bears upon the course, and perhaps upon the cause, of the cases of carcinoma which they meet.

The London Water Bill: An Appeal to Mr. Balfour.

THE change in the Premiership gives the Government not only an excuse but a reason for giving a little careful consideration to the London Water Bill. Lord SALISBURY, as Prime Minister and as Foreign Minister, always, and rightly, gave his first thought to foreign affairs. No other English statesman has any knowledge approaching that which the late Prime Minister possesses of the complicated conditions which govern the relations of the great powers of the world. It was for that reason that he was able to maintain the position of this country in a time of dire distress with a calmness, a dignity, and a completeness which were entirely worthy of the successor of PITT. It was

because his mind, his constant thought, and his traditional interests were bound up with the governments of countries that he looked upon many of the domestic struggles in politics with a detachment which was practically indistinguishable from indifference. The true explanation of this attitude was that Lord SALISBURY believed that, for good or for evil, under a democratic form of government the people entrusted with the power must judge for themselves in all home affairs. On the alcohol question he pointed out that it was often useless to make new laws when those already in existence were not enforced, and he explained to the bishops that people with cellars of their own were not always ready to appreciate the position of others who relied on those of a public-house.

When Lord SALISBURY received a deputation from some representatives of the Metropolitan Boroughs who desired that the London Water Bill should provide for the representation of the municipal authorities on the Water Board he pointed out that the London County Council held that it ought to be the water authority and that the Metropolitan Boroughs thought otherwise, and he told the deputation in effect that he thought each party had the right to its own opinion and that they must fight it out. It did not appear that he took much interest in the matter; the question was eminently one which should be decided by the "parties interested." Such an attitude is one which Lord SALISBURY had a right to take, but it is not one which can be rightly adopted by his successor. Mr. BALFOUR will be expected by the enormous number of persons who are interested in the matter to understand the London water question. But he will not be able to understand it without devoting some time and thought to it. And it is quite time that he should begin to do so. Up to the present time his remarks on the subject have not been fortunate. In one of his election speeches he said that he would not allow the London water-supply to be treated as an Imperial question. It is not an Imperial matter, but it deeply concerns the people of London, and their patience has been so unwearied that both of the great political parties appear to agree in one thing, if in one thing only—that the interests of the London people may be safely ignored. In one of his latest speeches Mr. BALFOUR said that we should hear less about London water if the Opposition did not wish to prevent the people in the country from being educated. The attitude of the Opposition does not concern us in the least; we have no political bias, the Opposition cannot pass a Bill, moreover it favours the acquisition of the water-supply by the London County Council and we have given our reasons for believing that this policy is opposed to the interests of the people of Water London.

We wish briefly to call the attention of Mr. BALFOUR and of his Government to some points in the London Water Bill as it stands in its amended form. We have already shown at length why the Bill as originally drawn was a thoroughly bad Bill. It is in some respects worse in its amended form. It may be well for us to repeat that we entirely disapprove of purchase of the present water businesses at the present time on behalf of the London people. But, supposing for a moment that purchase were desirable, the scheme for payment for the undertakings which was devised by Mr. BANBURY and adopted in the original Government Bill was a better plan than that provided for in the Bill as amended. The water companies naturally supported the amendment. In the second place we must call attention to the way in which the hands of the arbitrators are tied. The question is a financial one with which we do not feel it necessary to deal, but we may at least ask Mr. BALFOUR whether it is not the fact that the proposed Water Board is to be compelled to purchase the undertakings at a price which is to be determined by the dividends paid by the companies during the last few years! If Mr. BALFOUR does realise the effect of such an arrangement it is evident that some supporters of the Bill do not, for one of the Wandsworth borough councillors in a letter to the *Times* has suggested that the only thing necessary for the protection of the financial interests of the London people is that they should be properly represented at the arbitration. Lord LLANDAFF thought it would be fair that a company which had a prospect of increasing its dividends should receive compensation on that account, and that in case of prospective decrease of dividends a corresponding deduction should be made in the purchase price of the business. Is Mr. BALFOUR aware that some of the companies have only been able to pay their present dividends because they have neglected to spend money in providing sufficient plant for the adequate treatment of the water which they distribute? and is it not a fact that the arbitrators, far from being "free and unfettered," are not allowed to take such matters into consideration in assessing the amount of payment to be made to the companies as dividends till the discharge of compensation?

When there has been much discussion on any subject people often say: "Something must be done." Then they do the wrong thing. London Conservative Members of Parliament wish to be quit of the London water question. Mr. WHITMORE, for example, was eloquent for days at the Llandaff Commission against purchase of the undertakings; now he favours their purchase. Yet the water-supply is the same. Unnecessary as it may seem, it cannot be too clearly insisted that a change of ownership in itself will neither increase the quantity of the water nor improve the plant at present in existence. The great problem which will have to be solved is whether the present sources of water are adequate in amount. Lord BALFOUR'S Commission advised that they were sufficient. It has since been proved that the evidence on which that opinion was formed was contrary to the facts. The engineer to the New River Company gave evidence which he has since acknowledged was erroneous and he is unable to account for the mistake. The New River Company and the Kent Company have persistently declined to give information as to the state of their wells. There is a general opinion amongst independent water engineers, and a universal opinion in the districts themselves, that Hertfordshire and Kent are being depleted of their water and that the supply in the future (especially in the former county) will be less than it has been in the past. Lord ROBERT CECIL could probably convince Mr. BALFOUR on this point in less than five minutes. It would be manifestly unfair to force the London people to

buy undertakings of the details of which they are ignorant. There is no doubt that as time goes on more water will be used in London. In the language of water engineers, more water will be "wasted"; for example, the streets will be thoroughly washed. The water companies are under a statutory obligation to supply water at a reasonable price for this purpose and the present time, with awakening London municipalities, is not a judicious one at which to interfere with this arrangement, and it is not reasonable to form a Water Board to undertake duties which it would, by the very nature of things, be unable to perform.

There are, indeed, many reasons which show the inadvisability of purchase of several of the undertakings at the present time. We have lately described in detail some of the deficiencies of the present undertakings; it must suffice to recall a few of the points. The East London Waterworks Company has not sufficient sources of supply. At the present time it obtains water from other companies. For the water abstracted at Sunbury from the Thames by this company no provision is made for its storage and sedimentation. The filter-beds are supplied by crude river water. The Grand Junction Waterworks Company is greatly deficient in storage and sedimentation reservoirs. The Lambeth Waterworks Company is deficient in storage and sedimentation reservoirs and in filter-beds. It follows from these gross deficiencies that the company usually supplies dirtier water (or, in diplomatic language, "water of a deeper average tint of brown") than that supplied by any other company. The company has also failed to make provision for the continuous supply of water to its customers.

These facts are, we are quite ready to believe, new to Mr. BALFOUR. We call his serious attention to them and we ask him whether in the light of them he still thinks it fair that a new board can reasonably be required to purchase these undertakings and to become responsible to the London people for an adequate supply of water of good quality?

Annotations.

"Ne quid nimis."

THE KING'S HEALTH.

THE return of His Majesty the King to London on Wednesday formed an ocular proof to thousands of his loyal subjects that his convalescence is established. He has borne the journey to London without fatigue and is in excellent health. The wound is practically healed.

THE KING'S SANATORIUM: THE PRIZE COMPETITION FOR THE ERECTION OF A SANATORIUM IN ENGLAND FOR TUBERCULOSIS.

THE Advisory Committee appointed by the King in connexion with the erection of a sanatorium for tuberculosis in England announce that 180 essays were sent in in competition for the three prizes sanctioned by His Majesty. The terms of the competition will be found fully announced in THE LANCET of Jan. 4th of this year. The Advisory Committee, Sir William Broadbent, Sir F. Douglas Powell, Sir Felix Semon, Sir Hermann Weber, and Dr. Theodore Williams, are unanimous that the following essays are the best, and with the approval of His Majesty the prizes will be awarded in the order mentioned:—

FIRST PRIZE—Value £500.

Motto: "*Give him air; he'll straight be well.*"—Dr. Arthur Latham (London), with whom is associated as architect Mr. William West (London).

SECOND PRIZE—Value £200.

Motto: "*If preventable, why not prevented?*"—Dr. F. J. Wethered (London), with whom are associated as architects Messrs. Law and Allen (London).

THIRD PRIZE—Value £100.

Motto: "*Vis medicatrix naturae.*"—Dr. E. C. Morland (Croydon), with whom is associated as architect Mr. G. Morland (Croydon).

Dr. Arthur Latham is assistant physician to St. George's Hospital and to the Brompton Hospital for Consumption; Dr. F. J. Wethered is assistant physician to the Middlesex Hospital and to the Brompton Hospital for Consumption; Dr. Morland has somewhat recently completed a distinguished career at St. Bartholomew's Hospital by taking many prizes and holding the coveted junior appointments. We congratulate these three gentlemen on their success.

The following four essays being judged by the Advisory Committee to be "of great excellence" are awarded honourable mention:—

Motto: "*Fac recte, nil time.*"—Dr. P. S. Hichens (Northampton), with whom is associated as architect Mr. R. W. Schultz (London).

Motto: "*Open air everywhere.*"—Dr. Turban (Davos), with whom is associated as architect Herr J. Gros (Zürich).

Motto: "*Honesta quam magna*"—Dr. Jane Walker (London), with whom are associated as architects Messrs. Smith and Brewer (London).

Motto: "*Humus.*"—Dr. J. P. Wills (Bexhill), with whom is associated as architect Mr. Wills (London).

DR. JAMES GREY GLOVER.

WITH unfeigned regret we have to announce that Dr. Glover has intimated to us his wish to retire from active work as a member of the editorial staff of THE LANCET. His connexion with our staff commenced in June, 1862, under the editorship of the late Dr. James Wakley, and has continued uninterruptedly to the present time. During this long period of more than 40 years we have invariably found him to be a true, trustworthy, and sagacious colleague and a personal friend of sterling worth. As, happily, he will read these words we must refrain from the full meed of praise that is his due; but he knows, we think, how highly his services have been appreciated by us and he has been so kind as to tell us that the appreciation has not been wholly on one side. Dr. Glover's many friends will be glad to hear, as we are to relate, that his health continues good, that he is still actively engaged in professional work, and that his interest in all that concerns the reputation of the profession and the welfare of its members is unabated. In the name of our predecessors in the editorial chair and for ourselves we thank him for the work which he has done and for the time which he has expended in the service of THE LANCET; perhaps we may go further and thank him for all that he has accomplished, or tried to accomplish, on behalf of the profession which he loves so well. May he be spared for many years to come, no longer it is true as a member of the General Medical Council or as a medical journalist, but still as a representative general practitioner and a man of honour, probity, and good sense, to promote the best interests of his fellow-creatures generally and his brothers in medicine in particular. Our sense of loss is keen

but is tempered by the knowledge that we shall still have the benefit of his criticism in the future as in the past, for it should be known that, greatly to his credit as an independent thinker, Dr. Glover has never spared us criticism (considerately conveyed) when the editorial policy has not fully met with his approval. In the words of Rip Van Winkle: "May he and his family live long and prosper."

AN AGE LIMIT IN ELEMENTARY EDUCATION.

No one who approaches the subject with an open mind and some knowledge of the facts related to it will deny that there are weaknesses in our present system of public education which call for effective treatment. It has done good but it has by no means realised the expectations founded on it. On the other hand, it has done many things which the majority of persons probably neither expected nor desired that it should do. Nevertheless, there is health in it and some hope of better administration under a more intelligent policy. To arrive at the basis of such a policy should constitute the starting point of a much needed reformation in its modes of operation. For this reason the opinions of careful and suggestive critics are worthy of consideration as much by school boards or their prospective representatives as by the people of this country. Dr. Arthur Newsholme, medical officer of health of Brighton, is a critic of this kind. In a paper entitled "The Lower Limit of Age for School Attendance" he discusses the propriety of admitting children under five years of age to public elementary schools, and states the reasons which have led him to decide in favour of their exclusion. The first seven years of life, he reminds us, are years of rapid growth and are clearly intended by nature to be allotted practically to the fulfilment of this purpose alone. More particularly is this true of the five earliest years. To exact from the brain any systematic work during this period is to use it altogether prematurely and to induce a corresponding exhaustion of its working material. He argues further that liability to infectious diseases and the fatality resulting from them are both markedly more noticeable before the age of five years. Tables quoted from the ninth and latest annual report of the medical officer of health of the County of London and from a paper by Dr. Laing of Aberdeen in *Public Health* for July, 1902, alike bear out this contention. Consequently, it is of great importance to the well-being of these children that they should be as little exposed as possible to the danger of infection. This danger is more unavoidably present in public elementary schools than elsewhere. Such are the chief objections urged in this paper against the school attendance of very young children. Some of the advantages alleged to result from such attendance are quoted also. It is said to suit the convenience of working mothers that their younger children should be for some part of a day off their hands. By the same arrangement the attendance of the older children in a family is more or less assured. Finally, the infants are early introduced to the regularity and the work of school life. In the opinion of Dr. Newsholme neither of the two former considerations ought to be allowed any weight in comparison with the physical and mental requirements of the infant scholar. The last he does not regard as an advantage but the contrary. He shows that even the kindergarten work scheduled by the Board of Education as being suited to children between three and five years of age, though it does, of course, appear very simple from the adult standpoint, is too complex for the very unformed brain of a young child. Such work as "word-building," "recitation," arranging "pictures of number," and counting on beads implies a kind of mental occupation too regular and sustained for an infant whose brain tissue is still in this early developmental stage. As a matter of fact we are assured that the school-work of infancy goes beyond this and that a large amount of instruction in reading, writing, and arithmetic is got through before the close of the fifth year. The course pursued in England as compared with that in Scotland is suggestive in this connexion. In England 10·9 per cent. of the total number of children in elementary schools are under five years old, in Scotland the percentage during the same period is 2·2. After the sixth year the Scottish ratio rises above the English, and according to the report of the Royal Commission on Elementary Education for 1897 the percentage of scholars who passed in specific subjects amounted in Scotland to 25, as compared with 2·3 in England. Thus it does not appear that a much earlier introduction to school life carries with it a promise of educational advantage, but rather that its effect, if any, is prejudicial. Certain it is that the relative lack of an early forcing-bed for the mind has not prevented the exhibition of thinking power during the most fruitful years of the school period. We have no hesitation in indorsing the view taken by Dr. Newsholme in this carefully studied paper that the systematic school-training of children under five, and even under six, years of age confers no appreciable educational advantage but may easily become, and probably does become, in a number of cases a cause of premature brain exhaustion and tells against, not in favour of, the later progress of the scholar. It is a hopeful sign that opinions as rational as those expressed in this paper are so firmly supported by one whose official position brings him into frequent contact with the sanitary aspects of school life. In these days of super-abundant zeal, when reflection is apt to appear but a secondary consideration, it may not be found a waste of time to pause awhile to ask whether a plan of elementary education a good deal simpler than that which we have now, and seemingly somewhat slower but not less thorough (which, after all, is more like nature's way), would not be found the most useful in the end.

MEDICAL ASPECTS OF MOUNTAIN TUNNELLING.

AT a meeting of the North of England Institute of Mining and Mechanical Engineers held in Newcastle last April, Dr. Thomas Oliver of that city gave an interesting account of a visit to the works now in progress at the Simplon tunnel. This tunnel will be traversed by a railway connecting Brigue in Switzerland with Domo d'Ossolo in Italy. The distance between the two portals of the tunnel is 12·26 miles or 64,692 feet; it was commenced in November, 1898, and the contractors have undertaken to complete it in May, 1904. Of the long Alpine tunnels already in use, the Mont Cenis tunnel is eight miles in length and required 13 years for its construction; the St. Gothard tunnel is nine miles in length and required less than 10 years; the Brenner tunnel consists in reality of a series, no separate member of which is so long as the foregoing. During the construction of the St. Gothard tunnel (1872-80) 600 workmen perished, including the engineer and the contractor. This enormous mortality was attributed to a combination of insanitary conditions, such as insufficient ventilation; the high temperature, which at one time often rose to 107° F.; excessive moisture of the atmosphere; exposure of the miners to an Alpine climate on emerging from the tunnel and want of care on their part in not changing their wet clothes; the inferior quality of the food; and the ankylostomum duodenale, which, owing to the uncleanly habits of the men was conveyed from one person to another through the medium of the drinking-water. Dr. Oliver's visit to the Simplon tunnel works was undertaken mainly with the view of learning something of the hygienic and medical problems raised by the massing together of thousands of workmen in a remote valley. He found that the conductors of the enterprise were strongly impressed with the

importance of having healthy men for the work, sufficient house accommodation for them and their families, and good ventilation in the tunnel. The temperature in the tunnel was at first often as high as 96°, but by driving in air with fans it might be brought down to 68°. For every cubic foot of air that was sent into the St. Gothard tunnel 50 cubic feet are being introduced into the Simplon tunnel. At Iselle, on the Italian side, nearly 2000 men are employed, of whom 1500 work in the tunnel divided into three batches working an eight-hours' shift, so that there are always 500 men in the tunnel. On leaving off work they are brought out in a train from which they pass directly into a large wooden building, suitably warmed, where they have a warm bath, put on warm dry clothes, and leave their wet working-clothes to be dried in readiness for wearing next day. The hospital at Iselle is a two-storeyed wooden building under the care of Dr. Volante and contains 24 beds; the wards and operation room were extremely clean and well kept; the antiseptic treatment of wounds was carried out with scrupulous fidelity. So far, the construction of the tunnel has been remarkably free from loss of life, as from November, 1898, to the end of May, 1901, there were only six deaths from accidents, but there have been plenty of minor injuries. Bronchitis and rheumatism were the diseases of most frequent occurrence; intestinal catarrh was also common; there had been no enteric fever or ankylostomiasis. At Brigue, on the Swiss side of the mountain, the system was practically the same as at Iselle. More men were employed there than at Iselle and the hospital under the care of Dr. Pommata was a little larger. At the end of February, 1902, the Brigue end of the tunnel had advanced four miles and a half, while the Iselle end had advanced nearly three miles, or a total of 7·5 miles out of the 12·26 miles to be excavated.

CLEANSING WORK IN THE CITY OF MANCHESTER.

MANCHESTER is by no means solely a water-closet city. It might be supposed that there was trouble enough with the disposal of the matter carried through its sewers but in addition to this there are the contents of thousands of privies to be dealt with and the other solid refuse of a great population. These are disposed of in great part at Carrington Moss and Chat Moss. The latter estate comprises 2579 acres, is between six and seven miles from Manchester, and has a frontage of one and a quarter miles to the Ship Canal. The total cost was £138,520. It was bought in 1895 and up to March last the amount expended for the works necessary for the development of the estate, for the building and repair of farmsteads, reconstruction of roads and drains, for a wharf on the canal, and for a light railway for the conveyance of manure to the tenants was £60,040. The rents received from all sources on the estate for the year ending March 31st amounted to £5081. From December, 1898, when the wharf on the canal was first used, to March 31st, 1902, 208,349 tons of material have been received there and despatched by the light railway, of which there are about 10 miles, to various parts of the estate. The Carrington estate is about 10 miles from Manchester and is in Cheshire. It was bought in 1886 for £39,165, and since then £43,976 have been spent on drainage, light railways, and farm and other buildings. The valuation in March, 1901, was £118,354. This property comprises 1101 acres, and at the time of purchase 600 acres were wild moss and plantations, and the rest were only partially cultivated. Since that time the wild moss and the partially reclaimed area have been brought into a thorough state of cultivation, and if some one who only knew it of old could see it for the first time under its changed condition the transformation would appear almost magical. The corporation uses nearly 60 acres as a nursery on which it grows shrubs for the Manchester parks, while nurserymen and market-gardeners occupy a considerable area. The manure and refuse sent from Manchester by canal and rail during the 14 years ending March 31st last amounted to 661,236 tons. The rents received for the last year came to £1986. Chat Moss will no doubt be gradually converted into valuable agricultural land in a similar way, and though the collectors of rare insects may lament, the people of Manchester need not do so. A few grouse lingered at Carrington Moss till quite recently. It is difficult to see how Manchester could have dealt with her refuse without Chat Moss and Carrington Moss, and the scale of the Cleansing Committee's operations enable the mind to obtain some idea of the difficulties of sanitation where large populations are concerned.

EXPERIMENTS ON HEREDITY.

A MEMOIR of exceptional interest has been recently published by the Royal Society dealing with the subject of heredity. It is the first report to the Evolution Committee upon experiments undertaken by Mr. W. Bateson, F.R.S., and Miss E. R. Saunders. Recognising the fact that variations of animals and plants may be distinct phenomena, according as they are continuous or discontinuous, they thought it desirable to ascertain in as many cases as possible which variations belonged to each of these categories. With this object in view they proceeded to test each character separately by direct experiment in cross-breeding. Further, they proposed to test the possibility that in-breeding might have a specific effect in modifying the power of transmitting parental character to offspring. This subject had already attracted the attention of a Silesian priest, named G. J. Mendel, who 50 years ago made a very large number of experiments upon the *Pisum sativum*, varieties of which he crossed. His mode of procedure was to select pairs of varieties for crossing in such a way that the members of each pair differed from each other in respect of one definite character such as shape of seed, whether rounded or irregularly angular and deeply wrinkled; colour of cotyledons, whether yellow or green; colour of seed skin, whether brownish or white; shape of pod, whether simply inflated or deeply constricted between the seeds; colour of unripe pod, whether a shade of green or bright yellow; position of flowers, whether distributed along the stem or crowded near the top in a false umbel; and length of stem, whether six or seven feet or about one foot. Between these various pairs of varieties crosses were then made, the female parent having the anthers removed. On the examination of the offspring Mendel found that in the case of each pair of characters one only was manifested in every cross-bred individual to the total or almost total exclusion of the opposite character. The character which prevailed was termed the dominant, the character which did not appear the recessive, or shortly D and R. In each of the above pairs the dominant was the first. Reciprocal crosses gave identical results, so that D crossed with R or R × D gave offspring which in appearance are all practically D. The next generation was obtained by allowing the cross-bred plants to fertilise themselves, and Mendel found that this generation, instead of being uniform like their parents, broke up into the two original forms, but in such proportion that on the average there were three dominants to one recessive. The recessives were thenceforth actually pure and if allowed to fertilise themselves gave rise to recessives only, for any number of generations. The dominants, though apparently alike, could, if allowed to fertilise themselves, be shown to consist of pure dominants which on self-fertilisation gave rise to dominants only; individuals which were cross-breds gave rise on self-fertilisation to a mixture of dominants and recessives,

again in the proportion of three to one as before. The pure dominants were to the cross-bred dominants as one is to two. Mendel considered that his facts pointed to the conclusion that in the cross-bred each of its pollen grains and each of its egg cells was either a pure dominant or a pure recessive and that on the average there were equal numbers of each kind for each sex. If the assortment of pollen grains and egg cells was then supposed to take place at random, the most probable percentage result was 25 D : 50 D R : 25 R. But as cross-breds resembled dominants in appearance the apparent result was 3 D : 1 R at each successive self-fertilisation of cross-breds. Analogous experiments have been made by Professor Correns, by Professor de Vries, by Professor Tschermak, Mr. Trevor Clarke, and by the authors of the memoir, the plants experimented on being the common stock, lychnis, atropa, datura, and other plants. The essential result is the evidence that the germ cells or gametes produced by cross-bred organisms may in respect of given characters be of the pure parental types, and consequently incapable of transmitting the opposite character, and that when such pure similar gametes of opposite sexes are united together in fertilisation the individuals so formed and their posterity are free from all taint of the cross; that there may be, in short, perfect, or almost perfect, discontinuity between these germs in respect of one of each pair of opposite characters. Mr. Bateson and Miss Saunders, in the first part of their memoir, give the details of a large number of experiments which they have made on various plants, and these appear to support the statements of Mendel. In the second part of the memoir the authors took poultry as the subjects of their experiments, matching Indian game with brown Leghorn, white Leghorn, white Dorking, and a white Wyandotte hen. The results again appeared to support Mendel's statements. The new views naturally require a nomenclature, and this is introduced to the reader in the following terms. "By crossing two forms exhibiting antagonistic characters cross-breds are produced. The generative cells of these cross-breds are shown to be of two kinds, each being pure in regard to *one* of the parental characters. This purity of the germ cells and their inability to transmit both of the antagonistic characters is the central fact proved by Mendel's work. We thus reach the conception of unit characters existing in antagonistic pairs." Such characters Mr. Bateson and Miss Saunders propose to call "allelomorphs" and the zygote formed by the union of a pair of opposite allelomorphic gametes they call a "heterozygote." Similarly the zygote formed by the union of gametes having similar allelomorphs may be spoken of as a "homozygote." Many facts are given, many authorities cited, and many conclusions drawn in the memoir for which we have no space, but the extracts which we have made will show the general trend of the authors' work.

SMOKY CITIES.

WE were recently compelled to remark unfavourably upon the smokiness of Manchester and the injury which thereby accrued to both public health and public buildings. In doing so we were by no means unmindful of the fact that London is far from being as free from dirty smoke as it should be. The Public Health Acts and the efforts of the Coal Smoke Abatement Society have done, and are doing, something to make the atmosphere of London a little purer than it was in the middle of the last century, but still much remains to be done. This point has been brought forcibly before the notice of Londoners by a remark of General Lukas Meyer who, on being interviewed as to his impressions of England, said: "Everything in England, so far as I have been able to see it, is pleasing except the soiling of your fine city buildings by black smoke." The factory chimney has been attacked with success, but there still remain offenders in the shape of electric lighting shafts, the chimneys of restaurants and hotels, the chimneys of small bakehouses, and in greater numbers than all the chimneys of private dwelling-houses. It would be impossible to reform all the domestic grates at present in use, but surely the County Council, which is the building authority for London, might make it compulsory for every new house that is built within the metropolitan area to be fitted with a grate which at all events is calculated to emit as little smoke as possible. There is no perfect domestic grate, but the tests initiated by the Coal Smoke Abatement Society which were described in THE LANCET of May 10th, p. 1342, show conclusively that some grates are much better as regards the emission of smoke than are others. We cannot hope that we shall ever get a South African atmosphere in London but a good deal might be done to free town-dwellers from the *fumum strepitumque* which, if they annoyed Horace in Rome, would do so ten times more if he were with us in London.

THE DISTRIBUTION OF PLAGUE.

THE weekly return of the Director-General of the Sanitary Department in Egypt shows that for the week ending July 27th there were 8 new cases admitted, 1 of which occurred in a European. The deaths numbered 5, the recoveries 1, and 19 cases remained under treatment. With respect to sanitary measures, 15,696 rooms were disinfected and 613 were lime-washed, 173 sacks of effects were disinfected, and 1432 sacks of rubbish were burnt. The number of rats killed and burned was 995.

TYPHOID SPINE.

THE term "typhoid spine" was applied in 1899 by Gibney to a condition resembling Pott's disease, which occasionally follows typhoid fever.[1] 29 cases have now been recorded. Gibney thought that the condition was due to inflammation of the structures surrounding the vertebræ—perispondylitis. In the *Boston Medical and Surgical Journal* of July 17th Dr. G. W. Moorehouse has recorded the following case. A man, aged 28 years, had a severe attack of typhoid fever with a relapse. He entered hospital at the beginning of the second week of the attack and was discharged on June 10th, 1899, after a period of 10 weeks. Widal's reaction was obtained. While in bed there were no symptoms referable to the back but when he sat up or walked about the back felt weak and ached. 10 days after his discharge the pain rapidly increased and occurred in attacks lasting for an hour or two, with intervals of three or four hours of comparative relief. Movement was liable to bring on an attack but one often occurred without assignable cause. The attacks were more frequent in the night than in the day. The pain was localised in the lower lumbar and sacral regions and in the buttock—most commonly in the right, sometimes in the left, but never in both buttocks. Periods of a few days of normal temperature alternated with similar periods of pyrexia in which the temperature sometimes rose to 103° F. On August 23rd, when the patient was readmitted to hospital, the pain had diminished and was confined to the lower lumbar region. He was somewhat emaciated. There was no spinal deformity or tenderness. The Widal reaction was negative. The temperature in the first month varied between 98° and 99·5°. Then it began to rise and on Sept. 25th reached 103·6°. The febrile period lasted two weeks. On Oct. 2nd the spleen, which was said to be of normal size on re-admission, was felt below the ribs and Widal's reaction was obtained. In the last week in October slow and steady improvement began. He

[1] New York Medical Journal, 1899, vol. i., p. 596.

was discharged on Dec. 13th, having still some trouble with his back. He was soon free from pain, but his back felt weak and on several occasions he feared a relapse. He did not attempt to return to work in his office until May, 1900, 13 months after the onset of the typhoid fever. During the whole summer the back felt very sore for a day or two after any mis-step or over-exertion. He is still liable to this soreness but in less degree.

THE PREVALENCE OF SMALL-POX.

THE following figures show the number of patients admitted to the various hospitals of the Metropolitan Asylums Board for the dates mentioned. On Saturday, August 2nd, there were 6 fresh cases: on Sunday, the 3rd, there were no fresh cases; on Monday, the 4th, there were 7 fresh cases; on Tuesday, the 5th, there were 10 fresh cases; and on Wednesday, the 6th, there were 2 fresh cases.

THE CLOSING SCENE AT NETLEY.

IN the present number we give a short account of the proceedings at the last distribution of prizes in the Army Medical School at Netley. The next session of the school will commence in London on Sept. 1st and will be attended by the medical men on probation for both the Royal Army Medical Corps and the Indian Medical Service. The abolition of the Army Medical School is not the only momentous change taking place at Netley, for it has been determined that the office of assistant-adjutant-general shall not be refilled—an excellent arrangement, for the principal medical officer will now reign supreme in every portion of the great establishment and will for the first time assume the extensive responsibilities and position which should always have been his. Lord Roberts, who has the enviable faculty of always saying the right thing at the right time, recalled in his address to the newly-appointed officers the good works of their fathers in the Indian Medical Service. There is, perhaps, no greater incentive to good work than for a man to feel that he belongs to a body with traditions. The Indian Medical Service is one of which we are all proud and we doubt not that its great traditions will be still further handed on by the most recently appointed members of that service.

A TERRIBLE EXPERIENCE.

MR. MALCOLM M. MCHARDY, professor of opthalmology at King's College, has recently passed through a thrilling experience, fortunately, however, attended with no worse result than that of a broken rib. He was yachting with a friend, Mr. Philip Herbert, in the Channel and on July 26th Mr. McHardy and Mr. Herbert, together with a paid hand, left Netley for the Essex coast in a 10-ton decked yawl. All went well until a gale sprang up at night when on a heavy sea striking the yawl Mr. McHardy was jerked overboard. He was wearing oilskins, heavy clothing, and sea boots, so that his chances of escape seemed small. Although not an expert swimmer he is a stout man and therefore he did the best thing possible under the circumstances—namely, turned on his back and floated. Mr. Herbert, on missing his friend, turned the yawl round and sailed her back on her old course as nearly as he could guess. Mr. McHardy saw the yawl and hailed her, upon which he momentarily sank. Mr. Herbert then left the yawl in charge of the third hand, cast off the dinghy, and pulled toward Mr. McHardy. He was unable to get him on board, so he fastened a line under his arms and towed him back to the yawl. With great difficulty Mr. McHardy was got on board, the dinghy meanwhile having sunk. His watch had stopped at 9.17 o'clock and it was 10.27 when he was finally got into the saloon, but except for his broken rib, which probably was fractured by his being jammed between the yawl and the dinghy, he is, we are glad to say, none the worse. We congratulate him and the other members of the crew upon the pluck and presence of mind which they displayed. To be thrown into a stormy sea with heavy clothing on is by no means a pleasant situation, and yet perhaps the fact of Mr. McHardy's clothing being so thick saved him from death when he was nipped between the yawl and the dinghy. Mr. Herbert is, we understand, a skilled seaman, but this in no way detracts from his pluck in going to the rescue in a small boat. The resolution which he displayed in his successful effort to save his friend's life is past all praise.

MANCHESTER ROYAL INFIRMARY POLL.

THE voting papers for or against rebuilding the infirmary on the present site were returned on Saturday last and have now been counted. 1248 papers were issued, of which 757 were returned; 199 trustees voted in favour of the motion to rebuild in Piccadilly, 550 voted against it, and eight papers were irregular. The majority against rebuilding on the present site was therefore 351, a very decisive majority. Whether the board will accept the mandate of the trustees and adopt a scheme for placing the infirmary elsewhere, or—what would be very unfortunate—resign as a body, remains to be seen. It is to be hoped that having been beaten they will still work loyally for the interests of the charity and help forward the building of an enlarged infirmary at Stanley Grove, or on a more convenient and better site if one can be found.

THE medical excursions to German watering-places and health resorts, to which reference was made in THE LANCET of July 19th, p. 171, are intended to give medical men an annual opportunity of visiting localities interesting from a balneological point of view. Dr. W. H. Gilbert of Baden-Baden, the general secretary, now announces that applications from gentlemen desirous of joining this year's excursion will be received up to August 15th.

THE Select Committee appointed to inquire into the ventilation of the Houses of Parliament has presented an interim report in which the chemical and bacteriological tests made in the debating chamber during the session are referred to. At this stage, however, the committee is not prepared to draw up any recommendations and it is proposed to continue the inquiry during the autumn.

AT a meeting of the American Congress of Tuberculosis held in New York on June 3rd, 4th, and 5th a suggestion to hold a World's Congress of Tuberculosis in St. Louis in 1904 was approved, and steps are being taken to advertise this fact and to secure the aid of medical journals, societies, physicians, and scientific men in making the movement a success.

MESSRS. M. N. ROTHSCHILD and Sons have given £1000 and the Leathersellers' Company £250 towards the £100,000 required for cancer research by the Cancer Research Committee.

FACTORY GIRLS' COUNTRY HOLIDAY FUND.—An urgent appeal on behalf of this fund has been issued by the committee. No class of workers need an annual holiday more than do the factory girls of our great city. As the committee point out, "The factory girls of London need a break in their lives—not for their own sakes alone, but for the health and stamina of those who come after them. To contribute to this holiday fund is thus indirectly a contribution to imperial defence." Subscriptions and donations should be sent to the honorary treasurer, Mrs. Bedford, St. Peter's Rectory, Saffron-hill, London, E.C.

THE

BRITISH MEDICAL ASSOCIATION.

MEETING AT MANCHESTER.

OWING to the changes involved by the adoption of the new constitution of the Association there was no formal closing general meeting. The recommendations sent up from the sections were considered at the Council meeting held on Friday, August 1st.

On Thursday, July 31st, the Anglo-American Continental Medical Society gave a luncheon at the Grand Hotel. The chair was taken by Dr. F. M. Sandwith of Cairo, and among other members present were Dr. G. Sandison Brock, Rome; Dr. A. R. Coldstream, Florence; Dr. W. Page May, Assouan; Dr. Leonard N. Robinson, Paris; Dr. D. W Samways, Mentone; and Dr. Stuart A. Tidey, Florence. Among the guests were Sir W. Broadbent, Professor Clifford Allbutt, Dr. J. F. H. Broadbent, Dr. H. P. Cholmeley, Dr. G. B. Ferguson, Dr. H. W. Gardner, Professor J. Symington, and Dr. James Taylor. The chairman proposed the health of the King and the health of the guests, to which latter Sir William Broadbent replied. Professor Clifford Allbutt proposed "The Society" and referred to the value of the society as a bond of union. This was responded to by Dr. Samways and shortly afterwards the proceedings terminated. The annual luncheon of the Anglo-American Continental Medical Society is a pleasant little function and affords an opportunity to members of the profession whose spheres of work are in widely separate orbits to meet each other and interchange ideas.

The annual dinner was held on July 31st at Platt Hall, Rusholme, Manchester. The chair was taken by the President of the Association, Mr. Walter Whitehead, and the number of members and guests present was nearly 300. After the usual loyal toasts had been proposed and duly honoured Sir Thomas Myles gave the toast of "The Navy, Army, and Auxiliary Forces," which was responded to by Surgeon-General Hamilton, whose remarks in regard to the excellent work rendered by the medical service during the late war were received with great enthusiasm. Dr. S. Woodcock in a very witty speech proposed the toast of "The Bishop, Clergy, and Ministers of all Denominations," which was suitably acknowledged by the Dean of Manchester and by the Rev. Mr. Brown of the Roman Catholic Church of the Holy Name. Sir Frank F. Adam gave "The Houses of Parliament and the Colonial Legislatures," which was replied to by Sir James Graham and the Hon. W. G. Rockwood. The toast of "The British Medical Association" was entrusted to Professor Rotch. Dr. W. A. Elliston submitted the toast of "The City of Manchester and the Royal Borough of Salford" which was acknowledged by the Lord Mayor of Manchester and the Mayor of Salford. Sir James Grant proposed, and Principal A. Hopkinson replied to, the toast of "The Owens College." The remaining toasts were "The President" and "The Guests" which in spite of the late hour of the evening were received and acknowledged with great enthusiasm by the numerous company. During the dinner a charming programme of music was executed by the Band of the 2nd Volunteer Battalion Manchester Regiment and was much appreciated.

The closing entertainments on Friday, August 1st, consisted of a reception and conversazione given in the town-hall by the Lord and Lady Mayoress and a ball at which the guests were received by the President and Mrs. Whitehead.

THE SECTIONS.

MEDICINE.

THURSDAY, JULY 31ST.

Dr. THOMAS BUZZARD (London), in opening a discussion on

The Differential Diagnosis of Functional and Organic Paralysis,

remarked that the expression "functional" as employed in this country was scarcely ever met with in the writings of continental authorities, where cases of this class were always called "hysterical." Without attempting to define the word he thought that for the purposes of the discussion it would be convenient to consider it as applied to cases of paralysis which simulated more or less closely those arising from structural alterations of recognised character within the nervous system without being dependent upon any changes that the most advanced means of investigation enabled us to distinguish. He also thought that the term should be limited to cases of paralysis of a kind which it would be possible for at least some healthy persons to produce by voluntary simulation. This was not to imply that they were so produced (he entertained no doubt about the reality of the disorder) but in order to exclude from the category such examples as paralysis confined to the district of a single nerve-root or trunk of a mixed nerve. Functional paralysis could sometimes (though by no means always) be removed rapidly or suddenly as a result of persuasion or physical or moral check. He enumerated many symptoms which were conclusive as to the existence of organic disease and thought that, on the other hand, there were probably none which, unsupported, could be relied upon to establish a diagnosis of functional paralysis. Functional hemiplegia was rarely preceded by anything resembling apoplectic seizure; it was most commonly of somewhat gradual onset and was principally differentiated by its failure to present that gradual passage from flaccidity to contracture which was characteristic of the organic form. It was prone to be associated with an amount of anæsthesia far exceeding that usually observed in organic hemiplegia, except of that form in which there was lesion of the sensory tract in the internal capsule. The points of difference between organic and functional hemianæsthesia were considered. Reference was made to the characteristic hysterical gait. This had been well described by Todd, to whom they owed also the observation that hysterical hemiplegia rarely, if ever, attacked the face. Apparent exceptions to this experience were described. Attention was drawn to Babinski's "flexion combinée de la cuisse et du tronc" as an important test. In organic hemiplegia an effort to sit up in bed without the aid of the arms caused the heel of the affected side to be lifted, which did not happen in the functional form. Although a process of slow and gradual contracture was not prone to occur in the course of functional hemiplegia a strong contracture (without previous flaccidity) might take place often suddenly and might present a very strong *primâ facie* resemblance to the result of an organic lesion. In such circumstances a point which he (Dr. Buzzard) had described many years ago was useful for differential diagnosis. In true hemiplegic contracture of long standing, he had pointed out, the whole arm could not be passively extended at one moment; but in the functional form the arm, the hand, and the fingers could all by an effort be brought into one plane. He did not think that inequality of the deep reflexes on the two sides could be absolutely relied upon to prove that the hemiplegia was of organic origin, though it was, without doubt, a very strong indication in that direction; and the same obtained with regard to ankle clonus, which was sometimes, though very rarely, in the functional form, indistinguishable from that characterising organic lesion. Dr. Buzzard said that many years' continuous experience had entirely confirmed an observation published by him some 20 years ago as to the absence or difficulty in eliciting plantar reflex in functional paralysis, and he thought the symptom was of great service as a negative sign in differentiating functional from organic paralysis. The "toe phenomenon" described by Babinski in 1896 was probably of still more importance since it gave positive evidence of organic disturbance. Monoplegia of functional origin was then discussed and it was shown that although in many cases the character of the affection could be conclusively demonstrated its differentiation might sometimes present insurmountable difficulties. Paraplegia, he thought, rarely presented any serious difficulty, especially because of

the aid to diagnosis afforded by the Babinski toe phenomenon and his own symptom of absent plantar reflex. Some remarks were made on the electrical condition sometimes observed in muscles in cases of functional paralysis which might tend to cause misapprehension, and the various signs indicating functional paraplegia were described. Some remarks on the comparatively moderate and often transitory paralysis of a limb or limbs in insular sclerosis concluded the address. Attention was drawn to the extreme frequency with which this was erroneously regarded as of functional character and how much deplorable injustice was thereby inflicted on the numerous sufferers from this disease. He combated the idea held by some that these attacks of localised paralysis were at first hysterical and eventuated in organic change, and expressed the opinion that it was the attack of structural disease in the central nervous system which incidentally caused also hysterical symptoms. Not only physical shock, but the shock of structural disease, was prone to induce along with its immediately resulting symptoms others of a functional and often transitory character. In conclusion, he pleaded for the medical student receiving accurate instruction and study of the Babinski toe phenomenon as a most important means of differentiating organic from functional paralysis.

Sir WILLIAM BROADBENT (London) remarked on the facility with which early cases of disseminated sclerosis might be mistaken for functional paralysis. His experience confirmed what Dr. Buzzard had said on the diagnosis of the various forms of monoplegia and paraplegia. Sir William Broadbent wished to draw special attention to the extraordinary vascular changes which might be associated with functional paralysis—e.g., the actual increase in the volume of the limb and the changes in colour which might occur in limbs the seat of functional paralysis.

Dr. E. F. TREVELYAN (Leeds) referred to cases illustrating some points in the diagnosis between functional and organic paralysis. He mentioned cases of aphasia in Graves's disease, temporary hemiplegias in tabes, partial paraplegias and brachial and crural monoplegias. In a case of very localised paralysis of traumatic origin affecting the thumb simulation could be excluded. To illustrate the incongruousness of symptoms in functional paralysis he referred to a case in which a functional aphonia was accompanied by a typical and almost incessant hysterical cough.

Dr. JUDSON S. BURY (Manchester) thought that a sharp line of division should be drawn between cases of malingering and another group of cases which might be functional or organic in origin. He remarked on the impossibility of finding an infallible sign for distinguishing functional from organic paralysis, and he would not like to regard Babinski's sign as an infallible sign of the presence of organic disease. He referred to cases under his care which made rapid recovery which were certainly not functional. Cases called functional were not really functional; there must be some anatomical change, some change which came on and which could go away suddenly, though its nature could not yet be defined.

Dr. E. S. REYNOLDS (Manchester) drew attention to the importance of the subject under discussion. He thought that there was a marked increase in malingering and "compensation" cases since the enactment of the Workmen's Compensation Act. He referred to cases of malingering which could be readily detected by anyone with a knowledge of anatomy. In disseminated sclerosis considerable difficulty sometimes arose but it was not insuperable. Ankle clonus, with very rare exceptions, only occurred in organic disease. Babinski's sign checked and counteracted this "when it worked." A patient's gait should always be investigated with bare feet and then it afforded most valuable aid. It would then be noticed that the big toe, instead of being turned up vertically as in organic contracture, was turned downwards quite flat upon the floor.

Dr. T. D. SAVILL (London) remarked that the chief difficulty in the diagnosis of functional paralysis (as distinct from malingering, which belonged to a totally different category) lay in its distinction from syphilitic, embolic, and peripheral lesions, all of which might occur at the same period of life and in the female sex. There were three features upon which he wished to lay stress. The first was the absence of signs peculiar to organic disease, such as optic neuritis or valvular disease. Optic neuritis never occurred in functional cases, but there was nevertheless a very characteristic alteration in the vision in many cases—namely, a concentric retraction of the fields of vision and an inversion of the red and blue fields. Professor J. M. Charcot had first drawn attention to this. Secondly, there were certain special characteristics attaching to the individual symptoms in functional cases. A sudden onset in a female patient, dating from a fright, worry, or "nerve-strain" was strongly suspicious. Anæsthesia was very frequent. Sometimes it was scattered, sometimes it occupied one-half of the body and, strange to say, like functional hemiplegia, two-thirds of the cases were on the left side. Briquet's exhaustive analysis gave 85 per cent.[1] But in the third place, of all diagnostic features the variability and incompleteness of the motor or sensory symptoms were the most valuable. The symptoms might last on and off for an indefinite time, in one case which he had seen recently they had lasted for 28 years; but they varied widely in degree from day to day or hour to hour. There was no other clinical manifestation which could appear and disappear so suddenly and so completely. Did not this suggest a transient vascular lesion in the nervous structures involved? Moreover, when thoroughly investigated these cases often presented transient erythemata and other neuro-vascular phenomena, such as the swelling of a limb to which Sir William Broadbent had just referred; and in his (Dr. Savill's) view the symptoms were due to a transient internal vaso-motor lesion of that kind—a view which was supported also by other investigations upon which he was engaged.

Dr. HARRY CAMPBELL (London) found a difficulty in drawing a sharp dividing line between functional and organic disease. Taking myasthenia gravis, Landry's paralysis, the ocular paralysis, and Graves's disease by way of illustration, were they, he asked, organic or inorganic? Again, was the loss of knee-jerk observed in the early stage of diphtheria and diabetes organic? Genuine ankle clonus and Babinski's sign he regarded as absolute signs of organic disease. The pupil might be temporarily fixed in hysteria. Diplopia was an equivocal sign. He had observed a degree of hemianopsia in hysterical hemiplegia and had read of fixed pupil recurring in hysteria from spasm of the sphincter pupillæ.

Dr. F. W. MOTT (London) referred to the cholin test as a possible means of distinguishing organic and functional paralysis, but he would not like to claim infallibility for it. The proportion of cholin found in a person's blood bore a direct relation to the amount of nervous tissue which had undergone degeneration. Dr. Mott and Professor Halliburton had examined cases of disseminated sclerosis, myotrophic sclerosis, beri-beri, and a very large number of cases of general paralysis of the insane. Traces of cholin had been found in normal blood and in the blood in other diseases by some observers, therefore the test was a proportionate one. It was necessary to draw five or 10 cubic centimetres of blood from the arm. This was treated with six or eight times its bulk of alcohol to get rid of the potash salts, and the cholin crystals which formed were afterwards washed with alcohol. This, the chemical test for cholin, was comparatively simple, but the physiological test could also be employed. Cholin produced a fall in the blood-pressure of an animal, and this fall could be prevented by the previous injection of atropin.

Dr. DAVID DRUMMOND (Newcastle) wished to insist on the value of certain signs as indicative unequivocally of organic disease, such possibly as Babinski's sign and possibly ankle clonus, though the latter might be present in hysteria, a case being mentioned in illustration. It had been stated that aphasia and relaxed sphincters were never met with in functional paralysis, but this did not coincide with his experience.

Dr. PURVES STEWART (London) said that he would confine his attention especially to one point—the postures assumed by patients in cases of organic paralysis as contrasted with those of functional disease, and he illustrated his remarks with lantern-slides. First, as to *organic paralysis*, they were familiar with the postures which were gradually assumed by the paralysed limbs, whether hemiplegic, paraplegic, or monoplegic in distribution. Those postures of organic paralyses were determined by anatomical rules. Thus when one group of muscles were paralysed from a nuclear or infranuclear lesion (as in disease or injury of anterior cornua, anterior nerve-roots, or peripheral nerve-trunks) the unopposed antagonists slowly fixed the limb in a definite

[1] Traité Clinique et Thérapeutique de l'Hystérie, Paul Briquet, Paris, 1859.

posture, which was not only easily recognised but could be predicted beforehand. Several examples of such contractures were shown on the screen. Again, if from a supra-nuclear lesion, the muscles of a limb or of a segment of a limb were all more or less paralysed, and the "pattern" of contracture depended upon the relative strength of the different spastic and paralysed muscles. The muscles which were normally more powerful were placed at an advantage, so that, for example, in hemiplegia the familiar posture of the upper limb was one of flexion with pronation, that of the lower limb being one of slight flexion at the hip and knee with extension and some inversion at the ankle and a tendency to dorsiflexion of the toes. But in *functional paralysis* the conditions were different. Hysteria, it was said, often simulated organic paralysis—e.g., in a functional hemiplegia, paraplegia, or monoplegia. But on careful examination the posture was found to be not quite the same in organic and in functional contractures, the latter not being governed by the same definite anatomical laws. Dr. Stewart then exhibited a lantern slide of a case of functional hemiplegia in which, instead of the flexed pronated posture of the upper limb noted in the other case, the elbow and wrist were extended, the hand supinated, and the fingers half bent into a hook-like posture. And in the lower limb the inverson of the ankle was overdone; it was out of all proportion to the equinus condition. This contracture had developed quite suddenly, as it so often did in cases of functional contractures. Lantern slides were next exhibited showing that the posture of the foot in walking differed in organic and in functional paralysis. But although an organic type of contracture was always pathognomonic of organic disease the converse was not always true. In disseminated sclerosis paralysis of a characteristically "functional" type would sometimes be observed. In a certain proportion of cases a patient with disseminated sclerosis might have a coexisting paralysis of a "functional" type. In fact, the existence of a functional type of paralysis should always lead them to consider the possibility of disseminated sclerosis in the background.

Dr. JOHN M. MACCORMAC (Belfast) remarked that the differential diagnosis between organic and functional paralysis was often a most difficult problem and they had always to bear in mind that in organic disease symptoms of a functional nature might be present. It was well known that in the earlier stages of certain degenerative diseases of the central nervous system (e.g., disseminated sclerosis), symptoms apparently functional might coexist in their way. In his experience paralysis of the external ocular muscles was almost absolute proof of organic intra-cranial disease. The only exceptions to this rule were those very rare cases of ocular palsy dependent on toxæmia, epilepsy, or migraine. The loss of the pupillary reaction to light (in the absence of the influence of certain drugs), the Argyll-Robertson pupil, and well-marked and persistent hemianopia, invariably pointed to organic disease. The eye condition in which Wernicke's sign was present invariably indicated a lesion posterior to the geniculate bodies. Paralysis of the face and palate with very rare exceptions pointed to organic disease. A genuine loss of the knee-jerk was almost conclusive proof of organic disease, and so also was ankle clonus which had steady rythmic vibrations for a considerable time of six or seven per second. In hysterical palsy a clonus of very brief duration or with an inconstant rate of vibration was occasionally met with, and the abolition of pharyngeal and plantar reflexes coexisting with an increase of the other reflexes was proof that the condition was functional.

Dr. JULIUS DRESCHFELD (Manchester) drew attention to the frequency of tremor as a symptom in functional cases. Babinski's reflex sign could not, in his experience, be obtained in hysterical cases of paralysis, but he had observed it in other diseases besides organic paralysis, in a case of scurvy for instance. Nevertheless, if on tickling the sole of the foot there resulted extension of the big toe and flexion of the other toes; this, he believed, was absolutely distinctive of organic disease.

Dr. BUZZARD, in replying, quite agreed with many of the remarks made concerning Babinski's sign. It needed some experience and was sometimes difficult to obtain, and different observers did not always succeed in eliciting it.

Mr. HASTINGS GILFORD (Reading) read a paper on

Infantilism and Senilism,

accompanied by photographs and cases. The word "infantilism" had been applied by the French to conditions of generalised delay or arrest of development and the word "senilism" was applicable to the opposite condition of precocious development. These words were, therefore, to development what dwarfism and giantism were to growth. Infantilism, like dwarfism, might be due to natural causes. It was merely a variation of normal development carried to an extreme degree, and it might be termed "normal infantilism." An instance of this was given in which a girl of 15½ years was of the height of a child of six years, but showed a sexual development like that which is usual at 12 years. *Morbid infantilism* consisted of a marked delay of development associated with disease of the thyroid gland, pituitary body, sexual organs, and other parts. Infantilism, in fact, like dwarfism, might be produced by many causes. There was, however, one condition in which the arrest was by far the most marked feature of the case, but for which no cause could be discovered. This form of infantilism had received the name of "ateleiosis." It might be distinguished by its abrupt onset without perceptible cause, by conspicuous infantilism with retention of the intelligence, and by a special tendency to delay of development of the sexual system. About a dozen cases had been described. The delay of development might be so conspicuous that a man aged 28 years affected with the disease might resemble a boy of six or seven years and might have a skeletal development which was usually met with at 14 years of age. The disease presented a distinct facial type. A typical case was described and shown, together with photographs of five others. Senilism, like infantilism, dwarfism, and giantism, might be merely a preternatural variation of normal development. Instances of this *normal senilism* were given. In *morbid senilism* precocious development was usually associated with premature appearance of the sexual functions and it might be due to acromegaly, to mental shock, or to syphilis. Instances of senilism due to the first of these causes were described, and a short account was given of the celebrated French dwarf Bébé. After putting on one side cases of normal senilism and those which were the outcome of some known disease a form of senilism still remained to be accounted for. This disease, which had received the name of "progeria," had certain distinguishing features. Its onset was abrupt, it came on without perceptible cause, it gave rise to senilism of a very conspicuous character, and it did not affect the intelligence. Only two instances of this disease were known, but they were extraordinarily alike. The patients strongly resembled each other in height, in form, in facial characters, and in nearly every other respect. They died, one at the age of 17 years from angina pectoris, and the other at the age of 15 years from influenza, combined with general failure of health and other indications of senile decay. Their emaciated, wizened, bent, and feeble figures, combined with their baldness, their projecting veins, and an entire absence of elasticity of carriage caused them to present a caricature, rather than a picture, of old age. Photographs of these and other forms of senilism were shown.

SURGERY.

THURSDAY, JULY 31ST.

Discussion on the Treatment of Tuberculosis of the Testis, Vesiculæ Seminales, Prostate, and Bladder.

Mr. F. A. SOUTHAM, Vice-President, was in the chair, and in introducing Sir Thomas Myles, the opener of the discussion, congratulated him in the name of the section upon the honour of knighthood that he had received.

Sir THOMAS MYLES (Dublin) said that the subject was a difficult one to deal with and hardly lent itself to picturesque framing. The first point was the determination as to what was the precise primary site of tubercle of the genito-urinary system. There could, however, be no doubt that in the majority of instances tubercle of the prostate and vesiculæ seminales was secondary to tubercle of the epididymis, while that of the bladder was subsequent to that of the kidney. Tubercle of the testis was a very important subject and there were two chief schools of thought with regard to surgical treatment—one believed in the early and entire removal of the organ, while the other adhered to partial excision of the affected parts. The line of treatment depended greatly upon two queries, (1) as to whether tubercle of the testis was primary, and (2) as to whether the disease was a great menace to life. He believed that it was primary,

in spite of the difficulty of excluding absolutely tubercle from other organs. To justify complete excision of the affected gland it was necessary to show that partial excision was a failure and that primary tubercle of the testis passed commonly to distant organs. Given a nodule of tubercle in the epididymis, and no evidence of tubercle elsewhere, he did not consider that complete removal was justified, but where the testis was destroyed by disease then entire excision was needed if any operation should be carried out. He would classify cases of tubercle of the male genital organs under six headings: (1) those in which one or two small nodules of a chronic type were present in the epididymis and constituted the whole of the mischief; (2) a similar condition but with some slight enlargement of the prostate and vesicles; (3) where secondary suppuration had supervened but there was as yet no evidence of infection of the prostate; (4) a like state, but with consecutive disease of the prostate and vesicles; (5) in which both testicles were the site of a tuberculous deposit; and (6) instances complicated with affection of the lung. In reviewing briefly the surgical treatment of these several classes he laid down the following practical suggestions as his line of action. In the first class, partial excision with thorough application of a 5 per cent. solution of formalin gave a very fair proportion of good results. If it failed complete ablation was always open to the surgeon. In the second class, he very much doubted whether operative measures ever really did much good. If they were to be of benefit it necessitated the removal of the testis, the vas, the corresponding vesicle, and half, if not the whole, of the prostate. But he could not consider this extensive operation justifiable in most of the cases, for if the disease had spread so far it was probable that it had invaded other organs as well. The third class presented no difficulty—complete extirpation of the testis was the right and proper procedure. The fourth class did not lend itself to operative treatment of a radical nature. In those instances where both testes were involved double castration was advisable, but due regard must be paid to possible mental after-effects. In the last series no operation was admissible. Passing to tubercle of the bladder, it was not by any means always that surgical treatment was an unmixed benefit. Suprapubic cystotomy was so simple an operation as almost to invite the surgeon to undertake it. But there was no true comparison between superficial tuberculosis of the skin and tuberculous ulceration of the wall of the bladder. The former could be scraped and treated with the utmost impunity, the latter only in many cases with grave danger. Partial resection of an infected area with suture he had never carried out, not having dealt with a suitable case. Of tuberculosis of the vesiculæ seminales as a primary lesion he had no personal knowledge. If such a condition did occur excision was clearly indicated. He was afraid that he had been somewhat conservative and pessimistic, but he had candidly stated his opinions, for the opinion of every individual observer was of use in obtaining an aggregate knowledge. He had uttered a warning note against extensive operations, for he felt his responsibility in opening the discussion.

Professor N. SENN (Chicago) admired the paper for conservatism. No doubt in the surgical treatment of tuberculosis of the genito-urinary tract there were well-marked and definite limitations, and this dictum he would pronounce from an extensive experience. With regard to origin, he felt sure that tubercle here was not a primary lesion in some instances. He thought that the classification of cases was good and he was glad to have it. In the descending infections he insisted on the necessity of very careful examination of the urine before operation. The surgeon should also be a physician. Proper hygienic treatment might advisably precede, accompany, and follow operation. The inducement of active phagocytosis was no mean factor in the cure of the affection. Iodoform did all that was desired of it. It was a tissue stimulant, exciting phagocytosis. In simultaneous disease of both testes he did not agree that any radical operation could be performed. In tuberculosis of the kidney he had found that exposure of the organ and the local application of chloride of iodine to the interior of the pelvis and calices of extreme value. He was still hopeful that further patient investigation of tuberculosis would cause the discovery of a remedy which would obviate the necessity of operative measures.

Professor F. VALENTINE (New York) desired to deal rather with the prophylaxis of tubercle. He considered that an ascending infection was probably more frequent than a descending one and he was convinced that the field was prepared by a previous gonorrhœal infection. He therefore urged the need of systematic treatment of gonorrhœa as an important prophylactic measure. He counselled that the urethral discharge should be always stained for the tubercle bacillus as well as for the gonococcus.

Mr. P. MURPHY alluded to four cases of tubercle of the bladder which he had treated by suprapubic drainage, but he confessed that he was not at all satisfied with the results. In tubercle of the testis he advocated incision, scraping, and the application of iodoform.

Mr. JORDAN LLOYD (Birmingham) said that tuberculosis of this area opened up a great field in which much work yet remained to be accomplished. There was yet a want of accurate knowledge in many details. He insisted on the separation of the two systems, one genital and the other urinary, and stated that tubercle appeared distinctly in one or the other and only coalesced at quite a late period. Primary genital tubercle commenced in the epididymis and often altogether apart from preceding gonorrhœa, tubercle of the body of the testis being very rare except as a secondary infection. He believed, however, in primary tubercle of the prostate and of the vesiculæ seminales. It was easy to miss early disease in these latter by careless rectal examination, the finger being carried far too high up. The vesicles should be excised in primary disease. It was important to make a free incision and thoroughly to expose the vesicles before proceeding to enucleation. In primary tubercle of the prostate removal of the same by the perineal route should be adopted. Primary tuberculosis of the urinary system practically always began in the kidneys and there was a descending infection. It was not by any means always that such cases should be submitted to surgical interference.

Sir WILLIAM MACEWEN (Glasgow) agreed with the necessity of recognising that there was tubercle of two different systems, the genital and the urinary, but that they met in the bladder when they had spread far enough. In primary tubercle of the testicle he advised a splitting of the epididymis from the body of the testis, incision of the tuberculous foci irrespectively of any anatomical considerations, scraping and the free application of iodoform, with subsequent suture of the epididymis to the testis proper, and closure of the wound without drainage. In cases where the vas was infected he always drew upon the structure by slow traction until he had brought most of its length out of the wound and then divided it and sterilised the cut end. The vesicles, if infected, he removed through the perineum. He had also employed an injection of an emulsion of iodoform into the epididymis without incision. All surgical treatment should be combined with thorough hygienic measures. When the bladder became involved he considered that all treatment was only palliative, with perhaps a cure in a few instances.

Mr. J. RUTHERFORD MORISON (Newcastle-on-Tyne) felt that he was not so pessimistic, perhaps, as some of the preceding speakers had been. Tuberculosis of the genito-urinary tract was not an affection that progressed straightforward to death. There was one symptom, however, which was seldom got rid of—namely, frequency of micturition. He was sure that if it was possible an operation should be undertaken with a view to the removal of the whole affected area. This was impossible when the prostate was involved. He believed that the removal of the testicle even in advanced cases gave relief, for castration secured rest to the corresponding vesicle. There was a great lack of the after-history of cases. He had never seen any good whatever come from the use of iodoform in tuberculosis. It did not cure when applied to tubercle of the skin and he failed to see how it could do so even when hidden in the tissues by injection.

Mr. F. A. SOUTHAM believed that the necessity for double castration often arose, for of 10 recent cases of tubercle of the epididymis in no less than eight was the infection bilateral. He knew that such high authorities as Senn and Watson Cheyne were averse to double castration, but he had carried this out in several instances with the best results. Such a castration for enlargement of the prostate had been followed in several cases by severe mental disturbance, but he had not seen it arise in these instances of tuberculosis. In the former the patients were frequently old men with already senile cerebral changes, but in the latter the patients were usually between 30 and 40 years of

age. In one instance he had excised the epididymis alone on one side and the testis and epididymis on the other, with the result that the remaining body of the testis did not atrophy and the patient continued in good health and retained his sexual power. He was quite certain that after removal of the tuberculous testis the corresponding infected vesicle had a marked tendency to become shrunken. In tubercle of the bladder he was not satisfied by the results of suprapubic drainage.

Sir THOMAS MYLES, in his reply, said that he did not consider that gonorrhœal infection of the epididymis had any causal relation to the invasion of the organ by tubercle. He quite agreed as to the desirability of keeping the two systems—the genital and the urinary—distinct, but it must be clearly recognised that they became one in the region of the prostate. He felt that the removal of only a few inches of the vas was of very little use and strongly advocated its entire excision by extending the inguinal incision.

Chronic Pancreatitis Treated by Laparotomy.

Mr. EDMUND OWEN (London) read a paper on this subject based upon the record of two cases. The first was that of a man, aged 62 years, on whom he had operated for a septic empyema some years previously. The patient was found to be extremely ill with symptoms resembling those of malignant disease of the liver or the head of the pancreas. Dr. Hale White had also seen the patient and concurred in the probable diagnosis and agreed with the suggestion of an exploratory laparotomy. The incision revealed that the head of the pancreas was large and hard and evidently pressing against, and occluding, the common bile duct, thus inducing the jaundice which was present. The rest of the pancreas was also greatly enlarged and equally hard. This was taken to confirm the adverse diagnosis and the abdomen was closed. However, immediately after the operation the patient began to improve and eventually he made a complete recovery. The second case was that of a married woman, aged 30 years. She had three years previously suffered from septic endometritis. For a year she had much flatulence but no vomiting. Then jaundice supervened and she lost weight. On examination a tender swelling was observed below the ninth right costal cartilage. A provisional diagnosis of impacted calculus was made and an operation was advised. This was performed, when it was found that the obstruction was not complete as bile could be squeezed from the gall-bladder. Further examination showed that the head of the pancreas was almost as large as a fist and that the body and tail were also greatly increased in size. The question of establishing a communication between the gall-bladder and the duodenum was raised, but in the light of the previous case this was abandoned. The patient progressed well and left the hospital at the end of the third week. As to the cause of chronic pancreatitis Mr. Owen was ignorant. Were there several forms of the disease, and if so, was one simply catarrhal, and got well spontaneously or after a laparotomy, or was it infection from the duodenum, or was it associated with obstructed jaundice and could not improve without drainage of the gall-bladder? Even if it was true that some forms were spontaneously recovered from, yet an exploratory laparotomy might be needed to establish a correct diagnosis and might in some way also effect a cure. What should be done with the distended gall-bladder in these cases was a matter of difference of opinion.

Dr. T. D. GRIFFITHS (Swansea) alluded to the case of a woman who after enteric fever began to have jaundice and loss of flesh. Operation exposed a distended gall-bladder without calculi but with an enlarged head of the pancreas. He drained the bladder and there was a good recovery in three weeks and the patient remained in good health. He questioned the exact cause of the biliary obstruction; possibly it was the inflamed head of the pancreas.

Sir THOMAS MYLES said that he had recently had under his care a woman with a dilated stomach and swelling in the epigastric region, loss of flesh, and severe attacks of pain. At the operation the pylorus was found to be free, but there was a hard mass in the head of the pancreas, together with a long, narrow, distended gall-bladder. The latter he opened and removed 72 calculi, and closed the incision in the organ with sutures. The patient did excellently well. He was not at all sure that in some of these cases but that the rest in bed and the semi-starvation did not aid the recovery.

Mr. KENNEDY DALZIEL (Glasgow) believed that there was usually a common cause for the jaundice and the pancreatitis, the latter being essentially due to obstruction of the pancreatic duct. He had removed biliary calculi in a case which later showed signs of enlargement of the pancreas, for which he again operated, but did nothing more than the manipulation of the region. The patient did well at first but the symptoms recurred and another operation was undertaken, and this time a calculus in the pancreatic duct was discovered and was successfully removed through the duodenum. He thought that manipulation might in some of the satisfactory cases cause the dislodgement of a minute calculus from the pancreatic duct.

Mr. OWEN, in his reply, said that the cases mentioned illustrated three modes of treatment: draining the gall-bladder, opening it and closing it immediately, and leaving it untouched. He congratulated Mr. Dalziel on his most successful case.

Mr. RUSHTON PARKER (Liverpool) read a paper on

Experiences in the Extirpation of Tuberculous Lymph Glands during the last 30 years, comprising over 300 Operations.

Having seen Professor Billroth perform excision of enlarged tuberculous glands in Vienna in 1871 Mr. Rushton Parker began the practice himself in Liverpool in 1872, in which year he performed 28 excisions on 18 young persons, six males and 12 females, from seven to 15 years old, communicating the results to the Liverpool Medical Institution in a paper published in 1873 in the Liverpool and Manchester Medical and Surgical Reports. During the 30 years that had elapsed he had performed the operation 318 times on 224 persons, 93 males and 131 females, aged from one and a half to 60 years. The situations operated on were the axilla (15 times), the inguinal glands (10 times), the femoral (once), and the neck in the rest. The cases first published by other surgeons, after his own in 1872, were those of Mr. T. Pridgin Teale from 1878 to 1881 and onwards, and there were some from Mr. W. K. Treves (from 1884 to 1887) who said that he had then practised the operation for years.[1] The best account of the class of case requiring operation was that given by Professor T. Clifford Allbutt in the reports of the International Medical Congress held in London in 1881 and in the *British Medical Journal* of Nov. 25th, 1893. Other writings referred to were those of Mr. Teale,[2] Mr. W. K. Treves and Mr. Bertram Thornton,[3] and Dr. Keen of Philadelphia,[4] all of whom agreed with Mr. Rushton Parker in regarding other treatment as useless trifling. Mr. Rushton Parker had carried extirpation to considerable lengths and had performed long and difficult operations in many advanced and extensive cases of the disease with the best results in restoration of health and strength, often in previously feeble and delicate persons. Though the practice was widely known and adopted it had not received by any means the encouragement that was its due, so he considered that all members of the profession should realise more fully the desirability of its adoption with less delay in the less severe cases, the effect of which would be to diminish the number of neglected and severe cases; and furthermore urged operators more readily and thoroughly to undertake such severe and extensive cases as might occur and not be deterred by attendant difficulties.

Mr. MCADAM ECCLES (London) read a paper on

The Value of the Imperfectly Descended Testis.

He said that almost every instance of imperfect descent of the testis was associated with a patent processus vaginalis testis and often with descent of the viscera into the same. Almost all cases of hernia associated with an imperfectly descended testis should be submitted to operative treatment. It was thus that the value or non-value of the organ which had failed to pass into the scrotum became of great moment and the method of dealing with it of the highest importance. The function of a testis was primarily to produce spermatozoa for the reproduction of the species, but there was probably at least one subsidiary use. Without either testis in early life the individual would never acquire the full development of the male characteristics, but although he would have no power to produce spermatozoa, yet if he had testes he would still be capable of acquiring most, if not all, the manly peculiarities. Further, although possessing testes, yet the individual might not acquire the male characters, showing that these organs were lacking in both their proper functions.

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[1] THE LANCET, July 21st, 1888, p. 105.
[2] Brit. Med. Jour., Nov. 25th, 1893.
[3] Brit. Med. Jour., vol. ii., 1888, p. 105, and vol. ii., 1889, pp. 456 and 544.
[4] Brit. Med. Jour., vol. i., 1894, p. 160.

The testis, therefore, although it might not have reached its usual habitat in the scrotum, was yet in many instances of use to the possessor in that it would enable him to develop certain peculiarities which he would not otherwise acquire. The value of the arrested organ in the case of unilateral arrest was not of course so great as it was in the case of double arrest, for a single fully-descended and fully-developed testis was amply sufficient to perform all the requirements of full and complete growth and the development of the male characters. Still, even in these instances a value should be, or should not be, set upon the imperfectly descended organ. On the other hand, when the arrest was bilateral the surgeon had very carefully to weigh whether or not the testis had a real value. An examination of a large series of arrested testes removed from adults showed that by far the greater majority had never been capable of forming spermatozoa. There were undoubted instances in which arrested testes had been the seat of spermatogenesis, but it would be observed that most of these had been where the testis had not left the confines of the abdominal wall; in fact, it would seem that abdominal retention was by no means a bar to physiological testicular function. It was essentially the inguinal testis that was deprived of its power of producing spermatozoa. It would seem that delay in the inguinal canal, in the planes of the muscles of the abdominal wall, necessitated failure in the formation of cells capable of giving rise to sperm elements. There were at least three ways in which the inguinal testis might be dealt with when exposed during an operation for an associated hernia. The first was to bring it down into the scrotum and to fix it there. The second was to replace it within the abdominal wall. The third was to remove it altogether. If the testis had a real value it should not be removed. It could be safely returned within the abdomen, for statistics did not tend to show that there was truth in the statement that the imperfectly descended testis when it lay within the abdomen was more prone to become the site of malignant disease than its fully-descended fellow. It was on the other hand remarkable that there were few, if any, definite records of testes which had grown and developed so as to become capable of producing spermatozoa after orchidopexy. It would be well that henceforth all such cases should be published.

Mr. RUSHTON PARKER stated that in 12 instances in which he had brought down an arrested testis into the scrotum the immediate results had been most gratifying, but he regretted that he could not give the after-history of the cases. He considered the suggestion of the return of the testis within the abdomen was a valuable one, and he should carry it out in those cases in which it was impossible to perform orchidopexy.

Mr. RUTHERFORD MORISON read a paper on

Incision for, and After-history of Cases of Removal of, Gall-stones.

He demonstrated by means of diagrams a transverse incision for biliary surgery. It was carried completely across the right rectus and opened up very thoroughly the region within which manipulations were necessary. In the review of the after-history of a series of 43 cases which he had been able to trace he stated that there had been a return of symptoms in seven, which he referred as being due to either a failure to remove every calculus or to a re-formation of the same. There had been a hernia through the scar in four of the 43 cases.

OBSTETRICS AND GYNÆCOLOGY.

WEDNESDAY, JULY 30TH.

The PRESIDENT (Dr. D. LLOYD ROBERTS of Manchester) read his introductory address on the Manchester School of Obstetrics and Gynæcology.

Dr. A. L. GALABIN (London) opened a discussion on the Modern Indications for Cæsarean Section.

Professor MURDOCH CAMERON (Glasgow) read a paper on 50 Cæsarean Sections.

Dr. J. MUNRO KERR (Glasgow) read a paper on Some Experiences of Fritsch's Fundal Incision in Cæsarean Section.

Several members then discussed the papers.

Dr. R. JARDINE (Glasgow) considered that as a method of treatment in eclampsia Cæsarean section was not to be entertained. In one case he had to perform this operation. The conjugate was two and a half inches and the cervix was not dilated. The patient was having fits succeeding each other very rapidly and he recognised that the only chance of recovery which she had was for him to perform Cæsarean section. This he did; the child was delivered alive, the fits ceased, the albumin disappeared, and the patient had practically recovered when some days later pneumonia supervened and she died in 36 hours. At the post-mortem examination no sepsis was found. The speaker agreed with Dr. Galabin that Cæsarean section should not be done for placenta prævia; the mortality was very bad, 17 per cent., as compared with the ordinary methods of treatment under 5 per cent. He regarded Cæsarean section as the proper treatment for cases of concealed accidental hæmorrhage with no dilatation of the cervix, as in all the cases which he had seen with this condition death had occurred. He thought the statistics of Cæsarean section to be untrustworthy, there were so many different factors to be taken into consideration; of his own cases, where the operation had been done early and precautions had been taken, all the patients had recovered. He had never had any difficulty in controlling the hæmorrhage, having always followed Professor Murdoch Cameron's method of using a pessary for that purpose.

Dr. SPENCER (London) was glad to see that Dr. Galabin did not recognise Cæsarean section for cases of impacted ovarian tumours. He considered that the operation had been done for this condition far too frequently, and it was quite easy, having brought the uterus out through the abdominal incision, to get at the tumour, to remove it, and then to put the uterus back and to deliver with forceps. He could not agree with Dr. Galabin as to sterilising the patient after Cæsarean section. He thought that the operator had no right to sterilise a woman where the case was one of contracted pelvis only. If the patient got pregnant again she could be delivered by Cæsarean section without any extra danger or trouble, and he had lately performed this operation for the third time on the same patient under a local anæsthetic with a good result. He agreed with Dr. Galabin that Cæsarean section for placenta prævia was, as a rule, quite unjustifiable, but he remembered a case of complete placenta prævia with undilated os in which the patient had bled to death, and he thought now if he had performed Cæsarean section the woman would have been saved. There was one condition that sometimes necessitated Cæsarean section that Dr. Galabin had not mentioned—scars in the vagina. As a rule these stretched or split without any danger, but some years ago he amputated the cervix for malignant disease with the cautery 14 days after labour. The patient again got pregnant and at five months the os was quite closed. He let the patient go to full term and then performed Cæsarean section, removing the body of the uterus, and the patient was now, nine years later, quite well. Dr. Spencer did not think the fundal incision a good one as there was more chance of the intestines getting adherent.

Mr. J. STUART NAIRNE (Glasgow) thought that a word of warning was needed. He considered that Cæsarean section was a very much more serious operation than the induction of premature labour. Cases of Cæsarean section could be divided into two classes. First, the poor, who provided operators with nearly all their cases. The poor were careless and never sought advice till it was too late for the induction of labour; whereas, on the other hand, the wealthy would early seek advice and in these cases it was much more a matter of choice whether Cæsarean section or induction of labour should be done. Women, as a rule, were not so enamoured of Cæsarean section as to prefer this operation with the chance of a living child to induction of labour. He had lived long enough and presented so many statistics to this section to know that statistics were very great lies. Lastly, when any of his cases went wrong he did not shift the blame on to other people—nurses, &c.—but preferred to carry the battle on his own shoulders.

Dr. F. W. N. HAULTAIN (Edinburgh) considered the question of borderland cases the most important. Should Cæsarean section or embryotomy be done? Below two and a half inches embryotomy was a very dangerous operation, but what was the best treatment between three inches and three and a quarter? At three inches embryotomy he regarded as absolutely safe, whilst the lowest estimate of the mortality for Cæsarean section was 10 per cent.

Dr. MUNRO KERR agreed that under two and a half inches craniotomy was very difficult and had a high mortality; above two and a half inches he regarded it as a comparatively easy operation. With regard to symphysiotomy there

was no difficulty in deciding: below three inches it was very dangerous and above three inches it was a safe operation; but in these cases one could not always decide at once, labour must have progressed for some time, and one had to wait to see how the head was moulding. Before doing Cæsarean section he always put the patient in Walcher's position and attempted delivery with forceps. With regard to the induction of labour in hospital cases he regarded it as a very unsatisfactory proceeding and in cases which he had collected he had found the fœtal mortality to be 40 per cent.

Dr. WALTER (Manchester) thought that 30 per cent. or 40 per cent. fœtal mortality in these cases of induced labour did not represent the total mortality. It was only the immediate mortality and many of the remaining cases died in their first year. As regards the uterine incision in Cæsarean section he always selected the longitudinal one instead of Fritsch's, the only advantage of which was the easy extraction of the child, and the great disadvantage the greater liability to intestinal adhesions. He favoured Cæsarean section for cases of concealed accidental hæmorrhage, with undilated os; there was no condition that caused so much anxiety. As regards Porro's operation there was a great tendency to lose sight of the fact that it was a very valuable operation for men in general practice, where no proper assistance could be procured.

Dr. GALABIN, in reply, was astonished that after the great and unique experience which the Glasgow operators had had in Cæsarean section they had not extended the operation to slighter degrees of contraction than two and three-quarter inches, since in London the operation had been thus extended in the interest of the child and with no ill results to the mothers. He agreed with Dr. Kerr in his estimate of the fundal incision and also with Dr. Spencer as to the greater liability with it to adhesion of the intestines. All the statistics that had been quoted with regard to the relative mortality of Cæsarean section and craniotomy coincided with his own, that of Cæsarean section being very much greater. He could not agree with Dr. Spencer as to sterilisation of the patient. He did not think he had considered those cases where a patient would only allow Cæsarean section to be done under certain conditions. If she refused to be sterilised, was the surgeon to give up the case? Certainly not, unless the patient could be handed over to some competent attendant, and even then, in his opinion, he was not justified in so doing. He had lately a case of ovarian tumour complicated with pregnancy. He advised removal: the patient refused unless premature labour was first induced. Knowing it would be more dangerous to leave her to go to term with the tumour he sanctioned the induction of labour and performed ovariotomy 14 days later. As regards the small value of statistics which had been discussed by several operators, he himself did not regard as of much value individual statistics but considered generally they were the only evidence he had to go on, and Cæsarean Section had been advocated solely on account of these statistics which showed a mortality of about 10 per cent.

Professor CAMERON, in reply to Dr. Walter, said that he preferred catgut sutures, properly sterilised, to silk, because the latter did not become absorbed.

Dr. HERBERT SPENCER read a paper on

Total Abdominal Hysterectomy, especially by Doyen's Method, for Fibro-myoma Uteri, with Notes of 14 Cases.

He considered the presence of fibroids not in itself an indication for operation. Cystic fibroids, large fibroids in young subjects, and fibroid uteri suspected of malignant disease should be removed even when no symptoms were present. In other cases operation should be done only when serious symptoms were present or threatened. There was danger of mistaking sarcoma and cancer for fibroids. He thought the enucleation especially through the cervix to be the best operation in suitable cases. Normal pregnancy and labour might follow. If the tumour was not larger than a fœtal head vaginal hysterectomy was to be preferred to abdominal. The three chief methods of abdominal hysterectomy were: 1. Supravaginal amputation with extra-peritoneal treatment of the pedicle, the mortality of which was slight. The disadvantages of this operation were prolonged convalescence and risk of hernia. 2. Supravaginal amputation with intra-peritoneal treatment of the pedicle. The disadvantages were bad drainage, danger of hæmorrhage, infection and sloughing of the cervix, leucorrhœa, infection of the stitches, and adhesion of the intestine to the stump, with perhaps obstruction later. The growth might be sarcoma or cancer and malignant disease might develop in the cervix. 3. Total abdominal hysterectomy. The supposed disadvantages were that it was a longer operation, a danger of injuring the ureters, and a danger of vaginal hernia. Only the first objection was a real one if Doyen's method was employed. The average duration of his 14 operations was 87 minutes. In conclusion, he considered total abdominal hysterectomy superior to supra-vaginal amputation and Doyen's method of performing it the best. This method he had employed in 12 out of the 14 cases.

Mr. J. H. TARGETT (London) thought the chief reasons for advocating total extirpation were that the drainage was more thorough and the risk of malignant disease occurring in the cervix or part of a malignant uterus being left behind was obviated.

Dr. GALABIN had not experienced the advantages claimed by Dr. Spencer for total extirpation over supra-vaginal amputation and he thought there was more danger of injuring the ureter in the former. The comparative mortality of the two operations was not very different.

Dr. WALTER thought it was not easy to decide what was the best method. He had performed 38 hysterectomies with one death which had occurred in a case of total extirpation where he had stitched the roof of the vagina, whereas in these cases he had not done so before. His last 10 cases had been by the supravaginal method and the patients had all recovered. From what he had heard that day as regards malignancy he should have to reconsider the question. He had noted that the convalescence was more rapid and comfortable in those patients who had had supravaginal amputation.

Dr. T. A. HELME (Manchester) had always done panhysterectomy and had always closed the vaginal roof, except in one case where he did not do so and the patient in this case died. He did not think Dr. Spencer's results were due to the drainage and he regarded the closure of the vaginal roof as one of the most important steps of the operation.

Dr. SPENCER replied.

STATE MEDICINE.

WEDNESDAY, JULY 30TH.

The PRESIDENT (Dr. JAMES NIVEN, Manchester) opened the proceedings of the section by introducing the discussion on the part played by vaccination in preventing the spread of small-pox and the means by which the maximum advantage of vaccination might be secured to the community. He commented on the importance of the subject, and referring to the epidemics which had recently attacked London and those occurring in various large towns in different parts of the country during the past 10 years pointed out the necessity for determining the steps requisite to prevent these epidemics. He considered it somewhat of an anomaly that whilst Germany had practically stamped out small-pox England, the first country to reap the benefit conferred by Jenner's researches, still suffered from the scourge.

Dr. E. W. HOPE (Liverpool) read a paper on

The Precise Part played by Vaccination as carried out in this Country in Preventing Small-pox and the means by which we may hope to Secure the Maximum Advantage from Vaccination.

He pointed out that outbreaks of small-pox invariably revealed the fact that large numbers of people were very imperfectly protected owing to the inefficient manner in which vaccination had been performed; the incidence of the disease always confirmed the truth of a sentence occurring in the report of the Royal Commission on Vaccination, which stated that "the beneficial effects of vaccination are most experienced in those in whose cases it has been most thorough." Vaccination was by far the most certain preventive measure in limiting small-pox after it had occurred in a locality. The vaccination of some 50,000 people in districts in Liverpool in which small-pox threatened to make dangerous headway effectually checked its progress. The latter part of the subject involved administrative considerations. As vaccination was a protective measure, he asked why it should not devolve on the body which was responsible for the measures adopted to protect the public health—namely, the sanitary authority? The appropriateness of such an arrangement was obvious, and above all there would be an immense saving of time, a factor which was of the utmost consequence in repressing an outbreak of small-pox, for then the authority

which was the first to receive information of the outbreak would have at hand the remedy for its suppression. At the present time this was not so; and, moreover, however admirably guardians and vaccination officers might discharge their duties, time was inevitably lost in conveying information. With regard to the operation itself, Dr. Hope stated that the work of public vaccinators was on the whole more efficient than that of private vaccinators. This no doubt arose from the frequency with which the private practitioner acceded to the request of the parents and inserted the lymph in only one or two places instead of in four. On the other hand, the private practitioner ought to be entitled to the same payment in satisfactory cases as the public vaccinator. There seemed a necessity also for the establishment in proper centres or depôts for the provision of lymph which should be active and not, as was too often the case, inert. Parliamentary powers for compulsory revaccination were absolutely essential, and he would suggest that the most suitable age for the purpose should be 12 years. The wilful suppression of information or the knowingly giving of untruthful answers to questions put by the medical officer of health had been the means of depriving persons of the advantages of vaccination or revaccination and had resulted in serious extension of disease. He was strongly of opinion that a responsible person who, when applied to by the medical officer or his representative, wilfully withheld information as to small-pox or knowingly gave false information should be penalised and, in point of fact, Liverpool had sought special Parliamentary powers to deal with such cases. In this connexion he might refer to the recent outbreak at Nelson, resulting in 87 cases and six deaths, which undoubtedly had its origin in the mis-statement made by a Liverpool lodging-house-keeper. Though the proposals of the corporation met with opposition from the Local Government Board the principle was embodied in clauses that were assented to by the Committee of the House of Commons and would no doubt pass the House. Many communities would probably seek protection of a similar kind unless the provisions were incorporated in an Act applicable to the whole country.

In the animated discussion which followed the reading of Dr. Hope's paper Dr. E. C. SEATON (London) agreed with Dr. Hope that private practitioners should receive the same advantages as the public vaccinators, but he stipulated that they should come under equally stringent regulations as to the method of performing the operation and of returning their results, more especially as they should materially strengthen their main safeguard in the prevention of small-pox if only they could rely on perfect primary vaccination throughout all classes of the community. Further, if it was impossible for the Government to provide all the vaccine lymph employed for vaccination and revaccination, he was of opinion that it should at least so control the supply as to guarantee the distribution only of efficient and active material. Dr. Seaton regretted that the scope of the subject under discussion did not permit him to enter into the question of isolation of first cases in an outbreak, which he personally considered to be one of the most powerful weapons in the fight against small-pox.

Dr. E. J. EDWARDES remarked that compulsory vaccination in infancy had reduced the infant mortality, but that the adult death-rate from this disease was higher now in this country than before the introduction of vaccination by Jenner; hence he argued that primary vaccination was insufficient. The Germans had thoroughly grasped this fact and by means of compulsory and repeated vaccination had practically stamped out the disease. Isolation was good, but prevention by means of revaccination was better, and he would advocate revaccination of school children at the age of 12 years and again later in life, especially in the event of the occurrence of an epidemic. Compulsory powers should also be given to local authorities to revaccinate all individuals living in the vicinity of an outbreak, and finally he would welcome the supply of a vaccine lymph guaranteed by the Government.

Dr. J. G. GORNALL (Warrington) mentioned an interesting fact that had come under his own observation which appeared to indicate the possibility of the hereditary transmission of immunity—viz., that the children born of revaccinated parents were much more resistant to primary vaccination than were the offspring of those who had merely undergone primary vaccination. During the epidemic of 1882 at Warrington some 14,000 inhabitants, including a large number of young female mill-hands working in the town, were revaccinated, and in the course of his work as public vaccinator he had been particularly struck with the difficulty which he so often experienced when vaccinating the children of these women in obtaining "successful" primary vaccination results. He was strongly of opinion that vaccination should be completely under the control of the health authorities of a town.

Dr. J. T. C. NASH (Southend) pointed out and emphasised the fact that small-pox was almost unknown amongst the successfully revaccinated population. He then went on to say that the ordinary vaccine lymph of commerce was extremely uncertain and was sometimes quite inert and he advocated Government control of the lymph supply, thus ensuring standard efficiency, together with a satisfactory guarantee of its activity.

Dr. R. C. DRYSDALE (London) referred to the recent epidemic of small-pox in London, and in contrasting this with the conditions that obtained in Germany he stated that the mortality in the latter country for the year 1898 only amounted to 15 out of a total population of 45,000,000. He was certainly in favour of compulsory revaccination as the most powerful weapon at their disposal against this essentially preventable disease.

Dr. N. E. ROBERTS (Liverpool) said that the main question before them was whether they could recommend some legislation in connexion with revaccination for the benefit of the public at large, for he supposed that they were all of one mind that revaccination was absolutely the best thing, both for the individual and for the State.

Dr. THEODORE DYKE ACLAND (London) remarked that he was in favour of the view that the average Briton was much more easily led than driven, and he considered that they would get far better results if they showed that their own position was absolutely impregnable, and so left no loophole for people to escape from the conclusion that the individual was greatly benefited by revaccination. In fact, the most important work for the medical profession at the present moment in this connexion was the education of public opinion. He then moved the following motion:

That inasmuch as there is strong evidence to show that the effect of infant vaccination has very largely lost its effect after 10 or 12 years it is desirable that all children should be vaccinated at the age of 12 years.

The PRESIDENT expressed his distinct conviction that compulsion was necessary. At the same time, the English people would not be coerced, and he quite agreed with Dr. Acland that it would be unwise to drive the objectors too far, and he would, therefore, leave a loophole for the escape of fanatics or conscientious objectors. Such a loophole was at present in existence by reason of the provision for the conscience clause in the last Act.

Dr. J. M. RHODES (Didsbury) seconded the motion and while he agreed that a loophole should exist he argued that it should be made as small as possible. People would strongly object to a man bearing a lighted torch walking about in a crowd, yet many of those who refused to be vaccinated were quite as dangerous to the public safety.

On being put to the meeting the motion was carried unanimously.

Dr. RHODES submitted a further motion:—

That in the opinion of this section of the British Medical Association the duties appertaining to vaccination and revaccination should be transferred from the Poor-law authorities to the county and borough authorities, as those responsible for the public health.

In supporting this motion he stated that he did not believe that the Poor-law guardians constituted a proper authority to administer the Vaccination Acts. Further, the profession and the guardians were not always in perfect agreement, although on this particular question agreement was absolutely essential. His own opinion was that the administration of the Act should be placed in the hands of the magistrates, but if this were impracticable it certainly ought to go into the hands of the local sanitary authorities. The Association of Poor-law Guardians had already expressed its approval of such a change.

The motion was seconded by Dr. ROBERTSON, and Dr. EDWARDES, in supporting it, suggested that it was extremely desirable for the efficient working of the scheme proposed by this motion that a central authority should be established in London. Such a measure was an imperial one and, as such, required to be carried out in an imperial manner.

On being put to the meeting this motion also was carried.

Dr. C. KILLICK MILLARD (Leicester) read a paper on

What is the Precise Etiology of Return Cases of Scarlet Fever, and How may they be Prevented from Occurring?

He stated that return cases of scarlet fever were due to infection carried by patients from hospital on their return.

home and must therefore be regarded as essentially a "hospital phenomenon." The infective influence arising from the discharge of patients from hospital might persist for at least six weeks. On the other hand, analogous cases rarely occurred after the discharge of cases treated at home. The fatality of return cases, it should be noted, was above the average. Return cases, however, could not be considered as due to premature discharge, for it was the common experience of all hospitals that mere increase of length of stay in hospital would not prevent their occurrence, and in point of fact there were grounds for fearing that prolonged residence in an infected atmosphere predisposed to their occurrence, even if it were not actually productive of them. Neither did his experience support the supposition that return cases were in any way connected with protracted desquamation of the cuticle. Dr. Millard mentioned that the principal clinical conditions associated with the occurrence of return cases were discharges from the ear and nose, and he stated that some observers had suggested that these discharges were to some extent a hospital product. The ultimate causation of return cases might therefore be ascribed to inhalation of an infected atmosphere leading to the accumulation of infective matter in the nasal cavity, which was discharged after the patient's return home, and also in some cases to a residence in an infected atmosphere interfering with the elimination of infection by the patient and thus retarding recovery. Dr. Millard then suggested that the most effectual means for the prevention of return cases consisted in (1) isolation of convalescents from acute cases, or cases still infectious, prior to discharge from hospital, and (2) the substitution of an ordinary house for a hospital and separate rooms for large wards. In conclusion Dr. Millard pointed out that in Manchester in 1901 return cases neutralised 48 per cent. of the advantage gained by hospital treatment in preventing secondary cases.

The PRESIDENT did not consider that the occurrence of return cases could be held to outweigh the great advantages of isolation hospitals in preventing the spread of infectious disease.

Dr. MERVYN GORDON, who showed a series of lantern slides, held that the prevention of return cases was best attained by rendering all discharges innocuous by the careful use of suitable disinfectants, rather than by keeping the convalescents in hospital till all discharge had stopped.

After a few remarks by Mr. C. H. TATTERSALL (Manchester), Dr. HOPE stated that the proportion of return cases in Liverpool was small, whilst the mortality of scarlet fever patients treated at home, even when the attack appeared to be a mild one, was higher than was that of the hospital treated cases, including those of marked severity.

PSYCHOLOGICAL MEDICINE.

WEDNESDAY, JULY 30TH.

President's Address.

Mr. G. W. MOULD (Cheadle) dealt in his presidential address with the question of recent advances in the housing and treatment of the insane and especially with the employment of the system of detached blocks or "villas" for patients. He paid a high tribute to the memories of Dr. Bucknill and Dr. Hack Tuke who by their work laid the solid foundations on which had been erected the subsequent achievements of Henry Maudsley, Crichton Browne, Clifford Allbutt, and others, in psychological medicine. The late Professor Charcot was a prominent figure at the last meeting of the section in Manchester 25 years ago and took an active part in contributing to the papers and discussions in nervous and mental disease on that occasion. Professor Virchow was another prominent figure among the visitors during the same year and contributed not a little to stimulate pathological investigation and research. In 1858, when Mr. Mould began to practise in mental diseases, heroic dosage of drugs and heroic therapeutics, such as the use of the whirling-chair and the administration of large doses of tartar emetic, were largely in vogue in asylum practice. Much of this had, however, died away with the advancement of knowledge. The housing of the insane had always been a matter for serious consideration and in the Manchester Royal Asylum at Cheadle he had, since 1862, adopted the plan of distributing the majority of the patients and of treating them in separate cottages or "villas" apart from the main building. This plan of housing the insane was now being adopted extensively both in Europe and America and it had at present the support of the most advanced and enlightened psychiatric physicians. He was glad to see such a large and representative assembly of alienists present from all parts of the kingdom and hoped that the papers and discussions of the section which were to follow would prove a success. A vote of thanks was unanimously accorded to the President for his concise, interesting, and practical address.

Sir JOHN SIBBALD, M.D., Commissioner in Lunacy for Scotland, opened a discussion on

The Care and Treatment of Persons of the Poorer Classes in the Early Stages of Unsoundness of Mind.

His proposal was to establish wards in general hospitals for the treatment of persons of the class just referred to. The suggestion that such wards should be established in Scotland was recently submitted to the profession in Edinburgh by Dr. J. MacPherson and himself. The authorities of the public asylums had for years been most earnest and successful in making their institutions more and more efficient as hospitals for the insane. But persons who had been patients in asylums were, whether justly or not, handicapped in their future careers after being discharged as recovered. The friends and relatives of patients therefore felt a natural reluctance to avail themselves of the benefits to be obtained in asylums. A more important reason for wishing that wards for patients in the incipient stages of mental disease should be provided in general hospitals was that patients suffering from such incipient illness could not be certified as insane and received into asylums, and although they might properly be received into general hospitals, yet as a matter of fact, they seldom were. There was, it was true, in most hospitals a special emergency ward where patients suffering from acute alcoholic or other form of mental excitement or delirium were received, and in some hospitals also a few cases with symptoms of mental disorder were to be met with in the ordinary medical wards. But it was not the general rule, and, in fact, it was quite exceptional to receive or to admit patients with mental disorder; and even in those hospitals where such patients were freely admitted there was no provision to admit all mental cases which it was wished to provide for. The present position of the matter might be summed up in two propositions: first, persons suffering from mental disorders in their early stages were not, and under British lunacy law could not be, provided for in asylums; and, secondly, such patients were at present, as a rule, unprovided with hospital treatment of any kind. All that he desired general hospitals to do was to do for mental disease in its early phases what they did for disease in general—viz., to receive patients of the poorer classes who suffered from incipient mental disorder and who could not be properly treated under the conditions usual in the homes of the poor but could be suitably treated in general hospitals. As far as facts enabled him to judge, he thought that if such "mental wards" were established in general hospitals they would not fail from lack of inmates. Of course, there might be difficulties at first in deciding how certain cases—especially those of temporary mental disorder due to alcoholism—should be dealt with, but such difficulties were not insuperable. The length of time a patient with incipient mental disorder might remain in a general hospital was a very important point and he was of opinion that it should not be longer than six weeks. Such a restriction was necessary, if for no other reason, to prevent the wards being used for any except incipient cases. At the meeting of the Medico-Psychological Association held recently in Liverpool, Dr. Nathan Raw stated that out of 3129 cases of mental disorder which had during the past five years come under his survey at the Mill-road Infirmary, Liverpool, no less than 1066 were discharged as recovered, although such patients were prevented by statute from remaining in the wards longer than 17 days, and he (the speaker) understood that Dr. E. S. Reynolds had had similar experience in Manchester, and Mr. J. Carswell in Glasgow. Such facts were significant, though to weigh their significance quite accurately it was requisite to know the proportion of acute alcoholic cases among the patients treated. He suggested that it was desirable that the mental wards which he proposed for general hospitals should be in charge of physicians who had devoted their special attention to the care and treatment of mental disease, and he thought that the proportion of cases for which such hospital treatment was desirable was not

small. Success usually attended the treatment of most forms of incipient mental disease by skilful medication, diet on approved therapeutic principles, prolonged rest in bed, and continuous nursing night and day, all of which could be well carried out in a general hospital. He thought that it was an excellent practice to employ female nurses in such mental wards, as they were employed in other wards of general hospitals. In an interesting paper on the pyschiatric wards of the Copenhagen Hospital, published in the July number of the *Journal of Mental Science*, Professor Pontoppidan furnished valuable evidence founded on an experience of 14 years in support of the practice of employing female nursing in the class of cases alluded to, and already this view was gaining hold in the asylums of Great Britain. There was at present in the air the rival proposal of providing separate special hospitals—institutions apart from general hospitals and public asylums—for the reception and treatment of incipient cases of mental disorder. An insuparable objection to this scheme, however, was that by whatever attractive name such hospitals might be designated they would be classed by the public as "asylums," and the patients whom it was wished to benefit would accordingly shrink from entering them. The importance of avoiding everything which was suggestive of, or connected with, asylums in the public mind was indeed so great that if such wards as were proposed were established in general hospitals it would be essential that their structural arrangements and their mode of administration should be such that while fulfilling all the requirements for mental cases they should in no way be obviously distinguishable from the ordinary medical wards. Such wards would offer exceptional facilities to the medical student for gaining a practical acquaintance with mental disorders in their early and incipient stages. Patients seen by the student attending the usual course of clinical lectures for a term in a public asylum were not such as he would be called upon to treat in general practice. What the student and the general practitioner required was to learn to distinguish and to treat the various forms of mental disease at their incipient and early stages and before they had advanced sufficiently to need certification and sequestration in an asylum. With such knowledge the practitioner would be prepared to render important services to his patients at the most critical period of their lives, when the mental life and capacities of the latter hung, as it were, in the balance. But above all considerations there rose the supreme fact that the establishment of such wards would give an opportunity for the special treatment of mental diseases at the time and stages when they were most amenable to treatment and when the prospect of recovery seemed to be the most hopeful.

Dr. D. YELLOWLEES (Glasgow), in the discussion which followed the above, expressed his appreciation of the temperate tone of the paper and stated that non-certifiable mental ailments such as hypochondriasis, hysteria, and other like conditions were far more frequent in the social grades above that of the poor who, as a rule, had to work for their living and did not develop such neuroses or psychoses. He thought that removal from home, open-air country life, with suitably prescribed rest and exercise, and the needful medical treatment were the best modes of procedure. He therefore was in favour of separate and special hospitals for such patients, situated preferably in the country away from noise, dust, and smoke.

Dr. J. WIGLESWORTH (Rainhill Asylum) thought that a mental department attached to large general hospitals would be an advantage for patients whose mental disorders originated from acute toxic sources and who tended to recover within two or three weeks of the first onset of mental symptoms. For other cases—and they formed, perhaps, the majority—he was of opinion that special mental hospitals would prove more useful.

Dr. OSCAR T. WOODS (Cork) was of opinion that the number of cases which would seek admission into the mental wards proposed to be established in general hospitals would be small. He would welcome any scheme that tended to promote the cure of mental disease in an early stage, as it was a fact that in the class of cases admitted to asylums the recovery rate was very low and it could be maintained as a general proposition that no more than 5 per cent. of the population of our asylums were curable.

Dr. DAVID BOWER (Bedford) generally concurred in the proposals put forward by Sir John Sibbald, but thought that out-patient departments should be established at existing asylums and that the resident physicians should be allowed to see patients in consultation outside the institutions to which they were attached.

Dr. ROBERT JONES (Claybury Asylum) was in complete sympathy with the aims and objects put forward by Sir John Sibba'd. He favoured the establishment of special hospitals for the reception of early cases of insanity in or near London, as these could be made centres of clinical teaching also.

Mr. JAMES STEWART (Clifton) dwelt upon the odium attached to the words "lunatic" and "asylum" by the general public and thought that the term "asylum" should be discarded for the term "hospital for mental diseases."

Dr. A. T. SCHOFIELD (London) said that his attitude was one of discontent at the unsatisfactory state of psychological medicine in regard to early diagnosis and the treatment of incipient cases owing to the want of opportunities for instruction in this matter both for the general practitioner and even for the neurologist.

Dr. W. LLOYD ANDRIEZEN (London) said that the question was one of deep scientific and social importance. The present attitude of the specialty was one of reaction from the despair entertained for long, and now confirmed yearly, concerning the relative incurability of cases in asylums, the true recovery rate being, in fact, about 10 per cent. or even less. He thought that out-patient clinics and wards for the reception of early and suitable mental cases should be provided in general hospitals and he believed that for a large class of cases institutions on the "farm colony" system should also be provided.

Dr. T. SEYMOUR TUKE (London) thought that the reduction of incipient insanity would be a boon and would tend to reduce the ratio of criminality in certain respects. He looked with favour on special wards or special hospitals which no doubt would arise in accordance with the needs of the community.

Dr. WILLIAM DOUGLAS (Leamington) strongly supported the proposition of establishing wards for mental cases in general hospitals.

Mr. G. E. MOULD (Sheffield) said that he had no hesitation in supporting Sir John Sibbald's scheme, as his experience in the mental out-patient department of the Sheffield Royal Hospital bore out the views propounded by Sir John Sibbald.

Dr. FLETCHER BEACH (London) spoke favourably of the scheme of having an out-patient department for receiving and treating certain forms of minor mental disorder, as Dr. Henry Rayner had done for years at St. Thomas's Hospital. As regards the admission and treatment of such cases in hospital wards, he thought that there was more to be said for than against it.

Dr. ALEXANDER BRUCE (Edinburgh) stated that his experience had led him to sympathise strongly with the scheme propounded by Sir John Sibbald.

Dr. E. S. REYNOLDS (Manchester) strongly supported the view that general hospitals should contain wards for mental cases and said that his experience in Manchester indicated that undoubted benefit would follow such a scheme.

Dr. JAMES SHAW (Liverpool) was in favour of the reception of patients into the mental wards of general hospitals and thought that a further scheme of convalescent homes connected with the former would be worthy of consideration.

The PRESIDENT made a number of general observations on the importance of the subject of Sir John Sibbald's paper and said that on the whole the scheme deserved encouragement and sympathy. The discussion then concluded.

PHYSIOLOGY AND ANATOMY.

WEDNESDAY, JULY 30TH.

Dr. D. BERRY HART (Edinburgh) read a paper and gave a demonstration on

The Development of the Human Genito-Urinary Organs.

After briefly reviewing and criticising the existing views as to the origin of the vagina, uterus, and Fallopian tubes he passed on to give his opinion as to the part played by the Müllerian and Wolffian ducts in the development of these organs. He considered that the Wolffian duct was entirely ectodermal in origin and that the Fallopian tubes, uterus, and upper two-thirds of the vagina were formed from the duct of Müller, while the lower third of the vagina was formed from the fused uro-genital sinus and Wolffian ducts. The hymen, he considered, was formed from the Wolffian duct by the coalescence of bulbous proliferations of its cells, while the prepuce of the clitoris and penis was formed as a solid

ingrowth of surface epithelium which subsequently underwent central desquamation to form the lumen. He pointed out that a similar mode of formation occurred in the case of the sweat glands, the anus, the amnion, the urethra, and the like. The remarks were illustrated by numerous drawings, photographs, and lantern slides.

Professor A. M. PATERSON (Liverpool), after thanking Dr. Hart for his interesting paper, said that he was unable to accept the view that the Wolffian duct was of ectodermal origin; he regarded it as a mesoblastic structure.

Professor ARTHUR ROBINSON (London) found himself unable to accept the view of the development of the lower part of the vagina which Dr. Hart had propounded until Dr. Hart was able to explain how it was that, if the vagina was formed by the union of the Wolffian ducts and uro-genital sinus, the bladder opened at the anterior margin of the vagina and not into it.

Dr. PETER THOMPSON (London) pointed out that the nerve-supply and general morphology of the flexor group of candal muscles in the lower mammalia did not support the view that the pubo-coccygeus was primarily associated with the lower end of the genito-urinary tract.

Dr. HART briefly replied to the various speakers.

Mr. F. A. BAINBRIDGE (London) read a paper on

The Relation of Metabolism to Lymph Formation.

After pointing out that lymph formation might be considered in its relation either to the blood or the tissues he passed on to deal with the relation which existed between tissue activity and lymph formation. He said that in the case of the sub-maxillary gland, the liver, and the pancreas increased secretion—i.e., increased metabolism—invariably lead to increased lymph formation. The possibility of its formation being due to altered capillary pressure and permeability was excluded and it seemed probable that the lymph was formed as a direct result of the metabolism. He supposed that during metabolism crystalloid bodies were formed in the tissues; these passed by diffusion into the lymph, raised its osmotic pressure, and therefore attracted water from the blood, the result being an increased flow of dilute lymph.

In the discussion that ensued Professor W. H. THOMPSON, Dr. J. S. EDKINS (London), and Professor W. STIRLING (Manchester) took part.

Professor ROBINSON showed a Hand in which there was congenital absence of the right middle finger. The history of the case, he said, was interesting, as the mother prior to the birth of the child had frequently foretold some deficiency of this particular member. Professor Robinson pointed out that the maternal impression could have had no effect on the production of the malformation, as dissection showed that the flexor tendons to the missing finger were present though fused to those of the index finger, and these tendons were developed long before the maternal impression existed.

Professor STIRLING made some brief observations on Parturition in the Guinea-pig. After pointing out the smallness of the pelvic outlet and the immoveability of the bones in a non-pregnant animal and the comparative large size of the newly-born animal he demonstrated how in the pregnant guinea-pig the symphysis pubis became widely separated and the bones freely moveable.

Professor PATERSON brought forward a communication on the Development of the Shoulder Girdle in Mammals.

PATHOLOGY.

THURSDAY, JULY 31ST.

Professor G. SIMS WOODHEAD (Cambridge) opened the discussion on

The Place of Bacteriological Diagnosis in Medicine

with a paper in which he considered especially the bacteriological diagnosis of diphtheria and referred briefly to the bacteriology of cholera, anthrax, typhoid fever, and other diseases. His experience in regard to diphtheria extended to nearly 30,000 examinations in 12,172 patients during the past three years. Careful examination satisfied him that the value of such examinations was rather under- than over-estimated. The clinician and the bacteriologist must work together and if they did the errors in diagnosis were reduced from 20 per cent. to 5 per cent. in diphtheria cases. He found that the clinical and bacteriological diagnosis agreed in over 73 per cent. of cases. In 26 per cent. no bacilli could be demonstrated, but he considered that the clinical diagnosis was accurate in more than the 73 per cent., for there was difficulty in obtaining information concerning many of the specimens sent for bacteriological investigation. It was very important in making a diagnosis to obtain accurate information as to the conditions under which the swabs were taken and in which the patient existed. Diphtheria bacilli might be present in normal throats as, for instance, in those of nurses attending diphtheria hospitals, but if the general health was low or if an attack of catarrh occurred the diphtheria would surely develop. Again, in children with laryngeal diphtheria the membrane might be inaccessible to the swab and no culture be obtained. In cases of diphtheria *in extremis* he had sometimes got a negative result. In these cases the diphtheria bacillus after having done its work seemed to be ousted from its position by putrefactive bacteria late in the case. In laryngeal diphtheria 68 per cent. were unsatisfactory bacteriologically, no bacilli having been found in severe cases followed by paralysis. There was a great necessity for repeated examination to elucidate the diagnosis and to direct the after-treatment. In 66 patients a negative bacteriological diagnosis was obtained and this was followed in another attempt by a positive diagnosis of diphtheria bacillus. In many cases patients were dismissed from hospital with the diphtheria bacillus still present. Professor Woodhead considered that the patients should be isolated until the bacilli had entirely disappeared. Attention should be paid to the complicating organisms which were found along with the diphtheria bacillus and their effect on the mortality. From his figures Professor Woodhead found that the highest mortality obtained where the typical long diphtheria bacillus was present, and that the mortality diminished as this form was departed from. This left out the very virulent forms in which the bacillus had a short wedge-shaped form. In pure cultures of the long bacillus the mortality was 21·4 per cent., where the long and short bacilli were present about 20 per cent., when short and irregular forms a little over 18 per cent., in irregular forms alone 17·3 per cent., and in short forms alone 3·3 per cent. In mixed infections when the streptococcus was present with the diphtheria bacillus the mortality was 24·5 per cent. with the long bacillus and 10·4 per cent. with the short. The most fatal form of diphtheria was that in which the pathogenic organisms were mixed with staphylococci, in which the mortality was 42·5 with the long diphtheria bacillus and 11·9 with the short. The mortality was always higher in mixed infections. In scarlatinal cases the lowest mortality was with diphtheria bacilli alone. Professor Woodhead considered that the period of isolation after diphtheria should be extended as every case of diphtheria was a centre of infection until the bacillus had disappeared from the throat. He entered in detail into the length of time he had found the bacillus still present after diphtheria. The presence up to eight weeks was very common. From two to nine weeks was the time in which they might be present, but there were some exceptional cases in which this period was exceeded.

Professor D. J. HAMILTON (Aberdeen) congratulated Professor Woodhead on his elaborate and accurate paper. His own observation bore out every point upon which Professor Woodhead had insisted. There was always a difficulty with the pseudo-diphtheritic bacillus but the cases in which this arose were few. The only method of differentiating accurately between this and the true bacillus was by inoculation experiments. The mistakes in diagnosis of diphtheria bacillus in his practice did not exceed 4 or 5 per cent.

Major R. H. FIRTH, R.A.M.C., said that some years ago too much reliance was placed upon the bacteriological diagnosis but its relative value was now more clearly defined. No opinion could be given in a hurry in regard to diphtheria, water, &c. He strongly insisted that a diagnosis could not be made in 24 hours and refused to give an opinion under 10 days. The danger signal of cholera in water was the presence of a large number of fluorescent vibrios. Previously healthy waters in which these vibrios suddenly appeared were certain to cause an epidemic of cholera in a few weeks. He had never seen a typhoid bacillus recovered from a sample of water but bacilli coli communes and other bacteria were found and in these cases the water should be condemned. Streptococci were always present in polluted waters and if found indicated a recent contamination. Taken alone, the streptococci were not sufficient to condemn the water but when combined with bacillus coli communis the water should be rejected.

Professor S. DELÉPINE (Manchester) expressed his thanks to Professor Woodhead for his valuable address and a general agreement with his statements. Some differences in the results obtained in Manchester were chiefly due to the administrative methods and class of cases dealt with. Since 1893 he had insisted upon the importance of the bacteriologist not taking upon himself any administrative responsibility. The medical officer of health, with the assistance of the clinician and the bacteriologist, must remain the only person responsible for diagnosis upon which administrative measures were based. In relation to typhoid fever it was important to remember that negative results obtained before the seventh, eighth, or ninth day were not to be relied upon as conclusive, although positive results might be accepted. Professor Delépine discussed the advantages of a modification of the Widal method which he had introduced.

Dr. W. G. SAVAGE (Cardiff) discussed the relationship of bacteriological diagnosis to state medicine. Complete appliances were necessary for accurate work and the difficulties of bacteriological diagnosis had increased with more extended knowledge. The value of bacteriology in state medicine fell under the following heads: (1) the examination of material from suspected cases of diphtheria, &c.; (2) the examination of foodstuffs, especially milk and meat; (3) the systematic examination of water-supplies; and (4) the special investigation of threatened outbreaks of plague, anthrax, &c.

Dr. G. LESLIE EASTES (London) insisted upon the necessity for caution in the interpretation of the results of bacteriological analysis and pointed out some of the difficulties which assail the bacteriologist. He illustrated the latter from his experience of the Widal reaction.

Dr. G. NEWTON PITT (London), who presided, referred to the clinical aspect of bacteriology. He had seen several cases in which the diphtheria bacillus was present, but there was no inflammation of the throat or larynx. How were these to be treated? He did not agree with Professor Woodhead's opinion that they should all be isolated and he illustrated the difficulty in applying this measure to large schools.

Dr. R. M. KALAPESI (Bombay) said that in India typhoid fever assumed peculiar types, which were very difficult to diagnose even at the end of the second week. Since the Widal reaction had been introduced these cases were readily diagnosed. He referred especially to cases of so-called remittent fever, many of which were found to be typhoid fever. Again, cases of Malta fever were found in patients who had never been out of Bombay, and many of these were proved to be typhoid fever by the Widal reaction.

Professor SIMS WOODHEAD reserved his reply.

Major R. H. FIRTH, R.A.M.C., and Major W. H. HORROCKS, R.A.M.C., communicated a paper on

The Viability of the Enteric Bacillus in Soils and in Fabrics.

They said that although water was the universally recognised medium by which enteric infection was spread there were other means by which enteric fever might be disseminated. Of the less commonly recognised factors recent experiences in India and South Africa had directed attention to the soil and fabrics as sources of contagion. After discussing the diagnosis of the typhoid bacillus and the methods used in the investigation they concluded (1) that there was no evidence that the typhoid bacillus in soil could increase or grow in different directions; (2) that the enteric bacillus could be washed through at least 18 inches of closely packed soil by means of water; (3) that the bacillus survived in soil for varying periods, sometimes as long as 74 days; (4) that the enteric bacillus could survive in soil whether polluted or not; (5) that its survival was dependent upon the amount of moisture present; (6) that the bacillus could be recovered from fine dry sand after 24 days, but if the sand was kept moist the bacillus could not be recovered after the twelfth day, probably from being washed down into the deeper layers; (7) that the bacillus rapidly died out in peat; (8) that from ordinary soil kept damp with rain-water the bacillus could be recovered on the sixty-seventh day, with dilute raw sewage on the fifty-fourth day, with dilute sterile sewage on the seventy-fourth day, and that in similar soil the bacillus at once disappeared from the surface layers after heavy rainfall; (9) that infective material could be readily carried from dried soil and sand by air currents; (10) that the bacillus was recoverable from khaki drill on the seventy-fourth day, from khaki serge on the eighty-seventh day, and from blue serge on the seventy-eighth day; and (11) that ordinary house flies could convey infective matter from excreta or other polluted material to objects on which they walked, rested, or fed, and that such infective matter appeared to be attached to their heads, legs, bodies, and wings, but the bacillus did not pass through their digestive tract.

OPHTHALMOLOGY.

WEDNESDAY, JULY 30TH.

Dr. CHARLES EDWARD GLASCOTT opened the sectional meeting with an expression of his deep regret at the absence from the chair of Dr. David Little owing to indisposition. He welcomed the gathering to Manchester, thanked them for their interest, and believed that in the Royal Eye Hospital would be found something of interest to note.

Mr. R. MARCUS GUNN (London) opened the discussion on

Functional Derangements of the Eye (so-called Hysterical).

At the outset he said that he intended to confine his attention to functional or hysterical amblyopia, a sufficiently wide subject to do any justice to. The clinical observer was confronted with the difficulty of separating hysterical loss of vision from malingering. In both were found (1) loss of vision in one or both eyes, partial or complete, usually of sudden onset; (2) absence of ophthalmoscopic evidence of disease in the optic nerve or in the fundus to account for the visual failure; and (3) absence of any impairment in the reaction of the pupil to light. Further, in functional cases they observed mostly that the visual loss and associated symptoms and the after-history of improvement or recovery did not correspond to the products of any known organic lesion or disease. *Malingering* would always be a difficulty, especially when advantage might result to the patient on claims for damages arising out of the association of the amblyopia with accidents, or in the shirking of disagreeable duty; here one must be guided to some extent by impressions drawn from the patient's general attitude. Functional amblyopia was more common in females and it was in these cases particularly that hysteria and deceit were likely to overlap or to merge. There were certain recent statements to the effect that a true hysterical one-eyed blindness might co-exist with good binocular vision; that an eye unable to see alone could see in partnership with the other. If this were true there must be a double distinct central representative in consciousness: (1) of each eye by itself; and (2) of both eyes together, and one must here suffer and not the other. That *fusion* was distinct from double vision was certain but more than this he could not believe, but rather held the older, simple view that binocular vision *plus* one-eyed blindness meant *duplicity* truly but of another sort. A variety of simulation occurred commonly in young women who complained of recent failure of sight in both eyes and who did not assign any cause or complain of pain. The vision equalled about $\frac{1}{6}$ but was improved greatly by a weak plus lens and still more so on adding thereto the compensating lens. This could only be "feigned"; even "suggestion" could not be called in to explain a supposed cure. Recently there had been described cases of one-eyed functional amblyopia with mydriasis of the same side; he would like to be satisfied (1) that the inequality of the pupils did not pre-exist and (2) that there was no associated loss of accommodation as might follow the use of a mydriatic. It was said with these cases that there might be associated spasm of accommodation in the amblyopic eye, but it was not stated if this coexisted with the mydriasis—a strange combination—or with myosis. On the general question complete double amourosis was rare; he had seen one following mydriasis; this was cured by suggestion. More commonly the loss of sight was complete or partial in one eye only; here the reaction of the pupil to light was of greatest importance, lest after contraction to light there should be with continued exposure a secondary dilation, a phenomenon associated with the amblyopia of retro-bulbar neuritis—a disease not infrequent in young hysterical women as a precursor of insular sclerosis. Rarely functional homonymous hemianopia might occur; this had been denied but he had seen cases thereof. In one case, a female, aged 33 years, there was such a condition following on a series of marked sensory manifestations, yet on objective examination no abnormal condition could be found. The functional condition most free from suspicion

of simulation was that limiting of visual field associated with functional hemiplegia and hemianæsthesia. Here the visual defect was more commonly discovered by the examining surgeon; the loss of field was noted to be greatest upon the side corresponding to the side of motor or sensory defect. It had been said that in similar cases the field for red was greater than that for white or blue; recently he had examined for this without success. In a large class of cases the amblyopia was definitely associated with an injury, one producing a considerable degree of shock; Mr. Gunn detailed three such cases wherein a railway accident, a fall from a horse, and a pin-prick were the exciting causes, producing great diminution of vision and from which recovery was complete. Of the nature of nerve injury underlying these hysterical manifestations they were in the dark; some might be associated with simulation, others with an early obscure manifestation of a real organic disease; it was certain that some hysterias terminated in insular sclerosis. There might in general be a disturbance of association fibres betwixt higher and lower centres; the centres were capable; the reception was good but the consciousness thereof was diminished. Change of scene and friends afforded the most certain lines of treatment. Judicious dietary, assafœtida, and faradism were of use.

Mr. W. T. HOLMES SPICER (London) said that as to the question of helical fields in hysterical amblyopia it would be interesting to know whether Mr. Gunn had tested the visual field of one eye to complete exhaustion and then observed whether the other field was also similarly contracted. He believed it was so, and if so it would go to prove that the lesion was not retinal but was central, as Mr. Gunn had suggested. As to one-eyed mydriasis he had met a case lately: a girl who had defective sight in one eye of sudden onset in which mydriasis was present. No cause could be found for the mydriasis; the patient was carefully watched in the hospital and hysteria was suspected. After about a month very slight pallor appeared in the optic nerve showing the case to be one of retro-ocular neuritis.

Dr. A. MCGILLIVRAY (Dundee) said he had seen very few such cases. They must be exceedingly rare in Scotland.

Dr. A. H. GRIFFITH (Manchester) felt the question turned on whether they should judge the subject as patient or culprit; if as "patient," was the cause organic or functional? He had no doubt as to their occurrence; he had seen them in Manchester and he felt an inclination to belief in an organic basis in many of them.

Mr. R. W. DOYNE (Oxford) remarked on the peculiarity of a visual field of greater area for red than blue or white; it was contrary to all law. Also, he would call attention to the occasional overlapping of traumatic functional amblyopia by toxic amblyopia, which was well set forth in a case of his where the patient in brooding over his "accident" blindness smoked himself genuinely blind, as the scotoma showed.

The CHAIRMAN said that evidently his country was not so level-headed as Scotland, for he had seen such cases from fright and fear of punishment. In one case a man, who subsequently got quite well, obtained £500 damages for his injury; the shock arose from the vagaries of a petroleum lamp; in another it followed enucleation. He would also remark on the danger of missing a toxic amblyopia, for sometimes this form was marked in one eye only.

Mr. GUNN, in reply, said he agreed that functional disorders were often opposed to physiology. He had never seen red fields greater than white, but the idea was that under peculiar conditions a red object might strike where a common white colour was ignored. He thought that traumatic functional amblyopia might occur, but agreed that it was to be viewed with great caution, especially where questions of "damages" came in.

Dr. KARL A. GROSSMANN (Liverpool) read a paper on a case of

Ivory Exostosis Operated upon and Observed during 18 Years.

He had made an earlier communication of this case.[1] The disease apparently commenced in 1884, when the man was 24 years of age. There protruded below the inner half of the right eyebrow a large, round, fixed, very hard swelling which filled this region of the orbit. The eye was pushed down and out towards the zygoma, its movements were free, but the lids closed over it with difficulty. There was considerable conjunctivitis, the optic disc was red, and the retinal veins were dilated. The vision equalled $\frac{1}{60}$. The left eye and orbit were normal save for a small hard knob of the size of a cherry-stone above the inner canthus. The vision equalled 1. There was a rather doubtful history of an injury arising from a crashing blow over the nose and eyebrows in 1882. Of this injury slight scars remained. In 1886 the right cornea sloughed from the excessive pressure of the increasing tumour; also fistulous openings appeared in the lids. The right eye was accordingly excised, and the patient fearing injury to the left eye from increase of the tumour in that orbit desired operative relief. The removal was tedious, taking two and a half hours. Two hard exostoses were excised from the left orbit by drilling into their bases and cutting between the drill-holes. With regard to the left eye, vision improved in 12 days from $\frac{1}{60}$ to 1. In 1892 the patient was again seen; there was a small sinus over the left inner canthus, the right orbit was completely filled by a bony growth, part of which in the nasal region was bare, and the lids were exceedingly œdematous and purulent. In 1895 matters were so bad that removal of the growth was imperative. With the aid of Mr. F. C. Larkin huge pieces of ivory exostoses were removed (these were exhibited); one mass was evidently an enlarged middle turbinated bone measuring $2\frac{1}{2} \times 1\frac{1}{2} \times \frac{3}{4}$ inches. A large cavity of the nasal region resulted, through which the right palate could be seen; a couple of years later several plastic operations were performed with the result that the patient could once more pursue his business successfully. The patient, who was shown, was now aged 42 years, had V. $\frac{6}{6}$, and had no further trouble.

Major M. T. YARR, R.A.M.C., read notes on two cases of

Indirect Gunshot Injuries of the Eye.

Both cases occurred in soldiers engaged in South Africa. In the first case the man was shot at close range with a Mauser through the head; the entrance and exit wounds were clearly marked on the lower lateral walls of the orbit; mobility of the eyes was not impaired and the globes appeared to be normal. The right fundus was normal; the left disc and lower quadrant were "woolly" and raised 3 D.; the vessels were tortuous; there were two large hæmorrhages near the disc. The right eye had previously been amblyopic; he shot with his left eye; in a month's observation after his recovery from the shock vision improved from $\frac{6}{24}$ to $\frac{6}{18}$; vision in the left eye was *nil*. The second case was that of a man who was injured by a Lee-Metford bullet during an amateur firework display; he was struck on the left eyebrow. Three weeks later ptosis and blindness of the left eye were reported. The vision of the right eye now equalled $\frac{6}{9}$ and J. 1 and that of the left eye $\frac{6}{24}$ and J. 10; there were some abnormal pigmentation of the macula of the left eye and spotty choroidal changes. In both cases the globes had not been touched and he believed the cause to be concussion or vibration from a distance.

Mr. N. BISHOP HARMAN (London) said he had seen similar cases, one of a medical man whom he saw at the front beside whose head a shell had passed with great velocity, producing a superficial scarring as from a smart burn; there was also complete loss of vision from optic atrophy; probably this might be considered to be a reflex action from the damaged and irritated fifth nerve. The second case was that of a field signaller now attending the out-patient department of Middlesex Hospital; he had been knocked over by the explosion of a shell a couple of yards from him. The vision of the right eye had steadily gone down to a very limited perception of light; all the retina was finely detached except at one small part which could be mapped out by the perimeter. At the same time the left eye had vision of $\frac{6}{9}$ or with $-0{\cdot}75$ D. = $\frac{6}{6}$; the man was confident that this eye was perfect before the explosion as his signalling would show. The question might be asked, Had the shock set up a low form of inflammation in the globe allowing stretching of the coats producing detachment of the retina in the one eye and a low degree of myopia in the other?

Mr. CHARLES G. LEE (Liverpool) narrated two cases of similar injuries. A man, aged 19 years, was struck with a bullet from an air-gun on the outer surface of the left lower lid; it did not penetrate but caused contusion. There was free hæmorrhage into the eyeball which later was absorbed, leaving a condition resembling "retinitis proliferans" following the course of the temporal branches of the retinal vessels. There was perception of light only; the globe was shrinking. In the second case a bullet from a toy pistol penetrated into

[1] Ophthalmological Review, December, 1887.

the upper and inner part of the orbit, where it was located by x rays. On the fundus of the eye was a patch of blood which was now white and degenerate.

Major YARR, in reply, said that he did not think Mr. Harman's cases quite paralleled his, he felt they were more like the results following lightning stroke, cases of which he had described; the second case of Mr. Lee he thought of particular interest.

Dr. J. A. MENZIES (Rochdale) read a paper on

Detachment of Corneal Epithelium.

The condition he described as essentially one of defective attachment of the surface epithelium to Bowman's membrane, usually following superficial abrasion. Arlt noted cases in 1869, Grandclément in 1888 as traumatic keratalgia, and several other observers at later dates. In his own cases he had noted the onset of the lesion after injury; the great suffering caused by it, especially on opening the lids of a morning; rubbing the eye in certain ways; and the definite appearance of a ruffling of the epithelium so that even a fold could be seized by forceps, or the formation of a blister. He believed the acute pain to arise from the interlocking of the ruffled corneal epithelium and the inequalities of the tarsal covering and the frequent relapses to the indifferent fixation of the new epithelium to Bowman's membrane. In his hand thorough scraping had been of most avail; bandaging was useless; cocaine drops might be used at night if necessary.

Mr. C. DEVEREUX MARSHALL (London) objected to the use of cocaine in such cases; its action would be sure to clear off the remainder of the epithelium, for it so acted on a normal cornea.

Mr. SIMEON SNELL (Sheffield) thought the objection to cocaine was just. He advocated strongly peritomy—he had used it frequently with good results; in any case he did not think it good to remove the rest of a damaged epithelial covering.

Mr. HOLMES SPICER felt that any treatment was rather despairing; in America it was counted "malarial"; though he did not believe this possible of home cases he had used quinine and arsenic without good. He agreed that the pain was caused by the adhesion of corneal epithelium to the lid. He was inclined to think the lesion herpetic from its occasional alternating character and association in cases with menstruation. In one case he had performed iridectomy where tension had been raised and the cure was complete.

Mr. DOYNE thought well of peritomy, the 20 minutes' relief from the instillation of cocaine was dearly bought with a worse succeeding condition. He was of opinion that the seat of the trouble lay in a diseased endothelial lining to the anterior chamber allowing transudation. He had performed iridectomy twice with good results for this lesion.

Dr. MCGILLIVRAY said he was sorry that cocaine was so badly attacked; truly it caused evaporation and damage in aqueous solutions, but in oil it was not harmful but valuable.

Mr. BISHOP HARMAN said he had noted similar bullæ of the cornea affecting captive fish; here he had definitely ascertained that the condition was due to fluid infiltrating the layers of the substantia propria, which by its deficient development in certain fish tended to break down under unnatural conditions.

Mr. LEE read a paper on

Four Cases of Monocular Optic Neuritis.

In all cases there was a comparatively sudden onset, slight neuralgic pain locally, rapid diminution of vision, with contraction of field of vision, and the appearance of marked choked disc, all these changes being confined to one eye only; in none had there been any precedent febrile or grave constitutional disorder, nor had there been exposure to the influence of noxious drugs, vapours, &c.; further, there was nothing to indicate injury to the nerve behind the globe nor any suggestion of cerebral mischief. In each case recovery was almost or quite complete. He was inclined to think the condition was a local affection and not one indicative of general nerve disease.

Dr. GRIFFITH asked how these cases differed from retro-bulbar neuritis; all the symptoms, he thought, pointed to this.

Mr. DOYNE thought the cases resembled retro-bulbar neuritis; in similar cases he had noted a large central scotoma or more correctly a better perception of light at the periphery than at the centre of the field.

Mr. SIMEON SNELL (Sheffield) described a

Method of Suturing the Tendons to Form a Better Stump after Enucleation of the Eyeball.

He recalled Bowman's procedure of suturing the conjunctival opening, one rarely used now, indeed almost forgotten. He aimed at perfect clearness in removing the ball, the least degree of disturbance to the embedding tissues, and the arrangement of the cut muscles so that they would retract as little as need be and escape union with the scar. He attached each tendon by a thread to the adjacent cut conjunctiva before detaching the tendon from the eyeball; after removal of the globe the opposing tendons were tied together by these sutures, and at the same time the wound of the conjunctiva was closed. Healing was more rapid, the stump was more mobile, and the glass eye could be used at an earlier date. He had employed the method in 50 cases and considered it a distinct improvement.

A paper on a like operation was read for Mr. ERNEST CLARKE (London). He advocated fixing the external and internal recti only to the upper and lower margins of the conjunctival wound, which was further loosely closed by sutures. He said that the power of lateral deviation should alone be aimed at in a good stump. Elevation was immaterial.

Mr. EDWARD ROBERTS (Manchester) said that he had tried suturing opposing tendons and had given it up as appearing to afford no advantage.

Dr. KARL GROSSMANN thought the procedure should be more generally useful than the use of the glass stuffing ball. The latter he had noticed tended to escape from its coverings after three or four years.

Dr. F. W. EDRIDGE-GREEN (London) proposed a motion to be recommended to the Council of the Association:—

That in the opinion of this section the employment of the Holmgren test for colour blindness by the Board of Trade is most unsatisfactory, as the inefficient character of the test is now well known.

He said that the test was fallacious since it depended rather on shade perception than on that of colour, by its use notoriously colour-blind people had succeeded in passing as sound, whilst in the first year of its use by the Board of Trade of the rejected men who appealed there were found 38 per cent. of normal colour perception and similarly in the second year 42 per cent. of normals; thus it tended to pass bad cases and to reject sound men.

The motion was seconded by Dr. GROSSMANN who pointed out that cases of scotomata were not distinguished as colour defective by the test; these cases were important.

Mr. SNELL thought the motion too extensive, especially in the absence of any suggested alternative test.

Mr. DOYNE concurred with Mr. Snell and suggested that the matter should be deferred.

Dr. EDRIDGE-GREEN said he felt sure that such a motion would help the Board of Trade who recognised the fallaciousness of the test. He would be happy to have an inquiry but thought he should ask for the sense of the meeting on the motion.

The CHAIRMAN then put the motion and declared it lost, stating that of 24 then present only seven voted—three for the motion and four against.

DISEASES OF CHILDREN.

THURSDAY, JULY 31ST.

Mr. HAROLD J. STILES (Edinburgh) opened a discussion on

The Surgery of the Affections of the Central Nervous System which occur more especially in Children.

Mr. Stiles submitted a *résumé* and critical review of the several surgical procedures which in recent years have been practised in the treatment of various congenital and other abnormal conditions of the brain and spinal cord and their anatomical coverings. He discussed the surgical measures indicated in the different varieties of spina bifida and in the various forms of meningocele and encephalocele. Dealing with congenital internal hydrocephalus he described the methods attempted for the relief of this condition but could not say that they had been attended with much success. The surgical treatment of microcephalus had also proved a disappointment, though benefit might result when there were

signs of local irritation of the brain. In tuberculous meningitis Mr. Stiles was opposed to operation when the diagnosis was a matter of certainty, but in cases where a doubt existed an operation was justifiable in view of the possibility of the discovery of some condition capable of surgical relief. In posterior basic meningitis it had to be remembered that many cases recovered under medical treatment. Surgical measures, such as lumbar puncture, puncture of the lateral ventricle, and drainage of the fourth ventricle were, however, of distinct value in some cases. Paraplegia, the result of Pott's disease of the spine, was another condition often susceptible of treatment by surgical measures, more particularly when it was due to an abscess bursting into the spinal canal, when laminectomy was indicated. In the more chronic forms laminectomy should not be practised until rest and extension had been fairly tried. Speaking of the surgical treatment of epilepsy Mr. Stiles emphasised the importance of removing the dura mater as well as the bone in trephining the skull. This secured a permanent gap in the osseous wall which by a safety-valve action accommodated itself to varying degrees of intracranial pressure.

Mr. W. THELWALL THOMAS (Liverpool) agreed that little could be hoped for in the surgical treatment of congenital hydrocephalus. The pathological conditions on which this condition depended were so complicated that no single operation could be advised as suitable to every case, and it was only fair to state in advance that the chance of success was not great. On the other hand, acquired hydrocephalus in adults had a much more hopeful outlook. The surgical treatment of spina bifida was analagous to the treatment of a hernia and was influenced by similar considerations. One practical point was the necessity of using great care in dealing with the spinal cord; even the slightest injury was apt to cause a permanent paralysis. Many cases of spina bifida which appeared very threatening were much improved by the systematic application of collodion, and indeed in this way the necessity for operation could sometimes be avoided.

Mr. R. C. DUN (Liverpool) deprecated undue haste in the operative treatment of spina bifida unless the sac threatened to burst as many cases subsided spontaneously. He preferred excision to the injection of Morton's fluid. Whilst he could not claim a successful operation in tuberculous meningitis he had had success in non-tuberculous cases. In operating he advised approach through the lateral aspect of the skull rather than by the occipital route. In dealing with congenital hydrocephalus the difficulty was to maintain drainage of the ventricles. Dr. Dun showed a tube made of knitted catgut which he hoped might be useful in this direction.

Mr. DOUGLAS DREW (London) also discussed various methods of draining the arachnoid space and agreed with Mr. Stiles's suggestion to lead strands of catgut into the peritoneal cavity.

Mr. NOBLE SMITH (London) described the use of a splint in the treatment of angular curvature of the spine. He argued that rest alone could not secure fixation. Laminectomy might occasionally be required, but under the use of suitable apparatus many cases, even though complicated by paraplegia, made a perfect recovery.

Professor J. CHIENE (Edinburgh) emphasised the importance of rest in the recumbent posture in the acute stage of Pott's disease. No apparatus could be an efficient substitute for this. Rest and appropriate methods of extension were essential. In the chronic stage the jacket, jury-mast, and shoulder-collar had their appropriate areas of application. In spina bifida he was in favour generally of excision.

Mr. JOSEPH COLLIER (Manchester) discussed the methods of removing a collection of pus from the spinal canal and advised against the selection of the laminectomy wound as a suitable route.

Mr. STILES, in reply, referred particularly to the proposal to use apparatus in the acute stage of caries of the spine. He agreed, provided it was understood that the apparatus was combined with, and not substituted for, rest and the recumbent posture.

Dr. J. THOMSON (Edinburgh) read a paper on

Defective Coördination as a Probable Factor in the Causation of Certain Congenital Malformations.

He instanced congenital hypertrophy of the bladder, of the colon, and of the pylorus and stomach wall when each of these occurred apart from stricture or other organic explanation. In the absence of structural explanation of the hypertrophy it might be conjectured that these conditions were the result of functional disturbances which might well be of the nature of imperfect coördination. Such imperfect coördination would be the more likely to occur when the physiological action of the several parts had not advanced to a stage of stable equilibrium.

Dr. JULES COMBY (Paris) thought Dr. Thomson's explanation a very ingenious one, though he could not admit that it was applicable to all cases.

Mr. STILES referred to successful treatment of congenital hypertrophy of the pylorus as advocated by Nicholl of Glasgow and described a case from his own practice.

Mr. ROBERT JONES (Liverpool) read a paper on

The Surgical Treatment of Spastic Paraplegia,

and quoted a large number of cases in which he had secured added comfort and increased power of locomotion for his patients. He insisted on the necessity of prolonged post-operative supervision and education if good permanent results were to be obtained.

Mr. NOBLE SMITH deplored the neglect by physicians of the chances offered by operation in many of the palsies of infancy in childhood. Even if complete cure could not be obtained considerable improvement was often possible.

Dr. C. O. HAWTHORNE (London) readily admitted the significance of Mr. Jones's results. He could not, however, allow that all cases of spastic paraplegia were suitable for operation.

Mr. JORDAN LLOYD (Birmingham) could not say that he had been impressed with the permanent value of the surgical treatment of spastic paraplegia.

Mr. JONES replied and also read a Note on a New Operation for Flail Paralytic Elbow.

Mr. JOSEPH COLLIER described the after-treatment of erasion of the knee-joint and urged the importance of preventing fixation of the patella so as to obtain the action of the quadriceps muscle.

The question was discussed by Mr. STILES and Mr. JORDAN LLOYD.

Included in the business of the section was a visit to the Embden-street School for mentally-deficient children, and members had the opportunity of seeing the special methods of instruction there adopted. Subsequently an address was delivered by Dr. A. EICHHOLZ, His Majesty's Inspector of Schools for the Feeble-minded. Dr. Eichholz after defining the type of children suitable for admission to such schools, insisted on the importance of developing their instruction along lines which would fit them for manual occupations, as neither intellectual attainments nor skilled employments could be open to them. To secure permanent success it was also essential to provide supervision and discipline when the limit of school age had been passed. In Birmingham a special After-care Committee had been formed for this object and the example should be copied in every area containing a school of this order. The State might do much in this direction, even to the extent of establishing special colonies for the feeble-minded, but much must be left to voluntary organisations.

Dr. G. E. SHUTTLEWORTH (Richmond-hill) urged the importance of excluding imbecile children from these schools. He also suggested that the teachers should receive a special training for their work and should be allowed considerable latitude in the methods of education. He commended the establishment of permanent organisations for dealing with the adult feeble-minded and hoped that something in this direction would be instituted by the Metropolitan Asylums Board.

LARYNGOLOGY.

WEDNESDAY, JULY 30TH.

The proceedings opened with a long and important discussion upon

The Diagnosis and Treatment of Foreign Bodies in the Upper Air Passages and Gullet.

It was opened by Professor G. KILLIAN of Freiburg and a report of the opener's remarks and the discussion will appear next week. After this

Dr. ADOLF ONODI (Professor of Rhino-laryngology in the University of Budapest) gave a demonstration of

The Connexion of the Isolated Respiratory Fibres of the Recurrent with the Sympathetic and Cardiac Nerves.

Dr. Onodi said that the connexions of the laryngeal nerves with the sympathetic and the cardiac nerves had been

known for a long time, but recent observations and his own investigations had shown an extraordinarily intimate connexion which doubtless must have special significance. The connexion of the superior laryngeal nerve with the upper cervical ganglion of the sympathetic and with the rami cardiaci superiores which arose from the latter was known, as was also the connexion of the superior laryngeal nerve with the lower cervical ganglion of the sympathetic, the connexion of the external branch of the superior laryngeal being much closer with the upper cervical ganglion of the sympathetic and the superior cardiac nerve. The external branch of the upper cervical nerve sent off a direct cardiac branch or connexions to the upper cervical ganglion of the sympathetic and to the upper cardiac nerve. These anatomical conditions formed in man an exact analogue to the depressor nerve found in animals. In regard to the inferior laryngeal they knew its connexions with the upper cervical ganglion of the sympathetic and with the superior cardiac nerve. Of great significance was the observation of Lenhossék, according to which the inferior laryngeal nerve arose from a ganglion, whilst the ganglion stood in connexion with the pneumogastric by means of a thin root. The lower laryngeal was connected with the lower cervical ganglion of the sympathetic and, further, with the cardiac branches which took their origin from the middle and lower cervical sympathetic. He had succeeded in demonstrating in the horse the anatomical proof that according to the double function of respiration and phonation of the larynx the respiratory and phonatory nerve bundles ran separately in the trunk of the inferior laryngeal nerve and in the trunk of the pneumogastric. He had demonstrated this for a length of 88 centimetres. Whilst the phonatory nerve bundle could easily be isolated and showed only one connexion each with the ansa Vieussensii and with the cardiac branch it was difficult to isolate the respiratory nerve bundle, for it was very intimately connected by means of eight branches with the sympathetic and the cardiac branches. The photograph showed this remarkably intimate connexion. It was known that in the trunks of the sympathetic, besides the vasomotor and trophic, there were cerebro-spinal, sensitive, and motor fibres. His investigations had shown that the cerebro-spinal nerve fibres of the rami communicantes ran in the trunk of the sympathetic according to a well-defined system. In the upper part of the thorax and in the neck the larger part of the cerebro-spinal fibres of the sympathetic ran upwards and only a smaller part downwards, whilst in the rest of the thorax and in the abdomen just the reverse was the case. The sympathetic constituted the morphological basis in the known connexions for the course of the fibres and their intercommunication, as they were of different origin and different destination. Physiology had until now shown the presence of the depressor fibres and the cardiac branches originating from the superior laryngeal nerve, and his experiments had shown that in the dog the irritation of the sympathetic trunk between the lower cervical and first thoracic ganglion, as also of the communicating branches of the brachial plexus, would produce a contraction of the vocal cords of the same side. Beyond these observations the morphological facts mentioned had received no pathological or physiological explanation. In particular he drew attention to the intimate connexion which existed between the isolated respiratory nerve-fibres of the lower laryngeal nerve and the sympathetic and the cardiac branches. The morphological foundation was laid in the above-mentioned facts, showing an exchange of nerve-fibres of different origin and destination, but the isolation of these fibres and the investigation of their destinations formed still a subject for future inquiry.

Dr. J. DUNDAS GRANT (London) read a paper on

A Simplified Operation for Deflection of the Cartilaginous Septum.

This consisted in the first instance in straightening the cartilage by transfixion by means of a strong needle introduced from the concave side in front of the concavity, pushed through to the other side, and then back through to the concave side behind the deflection. Two cuts were then made by means of Moure's or Asch's shears through the cartilage, one above and in front of the deflection parallel to the nasal ridge, the other horizontally below parallel to the floor of the nose but not meeting. The cartilage was then manipulated so as to bring about over-riding of the segments at the lines of incision. The operation could be done under cocaine and nitrous oxide gas and the needle was kept *in situ* for a week, no plugging being required.

Dr. N. C. HARING (Manchester) read a paper on

Chronic Laryngitis; Correlation of Diagnosis and Treatment.

In this communication stress was laid on the various subdivisions of the disease and their diagnostic distinctions. The author pointed out that in order to secure the best treatment for each case a more particularised diagnosis than that of "chronic laryngitis" was required. The cases, he said, fell into groups fairly well defined according to the extent and degree of the congestion, which might vary from intense diffuse redness of the whole organ to localised injection and according to the position and extent of the hyperplasia; the condition might be latent, yielding no symptoms and only attracting the patient's attention during periods of exacerbation. It was essential to be able to exclude tuberculosis, syphilis, and early malignant disease in a diagnosis of chronic laryngitis. Speaking of tuberculosis of the larynx, he said that a considerable zone of engorgement might extend around a tuberculous ulcer, and an error in diagnosis was easily possible when the ulcer occupied a position where it might escape observation. Except trifling surface abrasions it was extremely doubtful whether ulceration ever occurred in simple chronic laryngitis. During the course of pulmonary phthisis the irritant products of expectoration often set up a laryngeal catarrh which had no other connexion with the tuberculous lesion. Cases of chronic laryngitis he divided roughly into three classes: (1) systemic; (2) due to, or associated with, nasal disease; and (3) independent of nasal disease. In Group 1 local treatment was of little use, the appropriate treatment must be directed to the systemic lesion. In Group 2 the majority of cases of chronic laryngeal catarrh were found to be associated with nasal lesions. It was useless to attempt to cure the laryngitis without relieving the nasal condition and in many cases the relief of the nasal lesion would be almost sufficient as the larynx when relieved from irritation tended to recover. Nasal affections appeared to influence the larynx in three ways: (1) extension of catarrh by continuity of surface; (2) irritation by discharges; and (3) mouth-breathing caused by nasal obstruction. The presence of pharyngitis sicca pointed strongly to the root of the disease being in the nasal area. Passing to a consideration of the affected organ itself Dr. Haring said that he had found the following classification of much clinical use: laryngitis chronica superior, affecting principally the loose glandular tissues above the cords; laryngitis chronica media, affecting principally the cords; and laryngitis chronica inferior, affecting principally the region below the glottis. In the treatment of the first variety he had found astringent applications of little value; on the other hand, the galvano-cautery applied carefully to the hypertrophied tissue had afforded him satisfactory results. The formation of fissures in the inter-arytenoid space was referred to as a troublesome form of this subdivision. Under laryngitis chronica media reference was made to cases which presented cords with grey, lustreless, roughened surface and which resembled pachydermia laryngis, but were distinguished from it by the absence of the pathognomonic tumours over the vocal processes. The several forms of treatment commonly in use were referred to. Under laryngitis chronica inferior it was mentioned that in most cases of chronic laryngitis the portion below the glottis suffered and that it was owing to the neglect of this region that local remedies often failed to effect a cure.

Dr. W. JOBSON HORNE (London) agreed that the term "chronic laryngitis" had come to be too loosely used, that it was far too comprehensive, and that a more particularised diagnosis was required to secure the best treatment. At the same time he could not accept the classification of chronic laryngitis, as suggested by Dr. Haring, into "superior," "media," and "inferior." A regional subdivision might be at times clinically useful for purposes of description, but it was not permissible on pathological grounds, and, after all, an appreciation of the pathology of the various forms of chronic laryngitis was the only sure way of reaching the most appropriate treatment. He therefore advocated a classification which specified the causes and was based upon pathology.

Dr. HARING replied that the subdivisions which he had mentioned were intended to be clinical aids to carrying out the treatment of parts most affected in particular cases.

ETHICS.

WEDNESDAY, JULY 30TH.

The PRESIDENT (Dr. S. WOODCOCK of Manchester), being detained by a meeting of the General Council, could not deliver an inaugural address and the sitting was opened by Mr. J. S. WHITAKER (Great Yarmouth), who is one of the honorary secretaries.

Pending the arrival of members who were announced to read papers Dr. A. H BAMPTON (Ilkley) made a communication concerning

Contract Work in Hydropathic Establishments.

In many cases the medical attendant was employed as a sort of "decoy duck" for mere hotel companies. The payment he received sometimes did not amount to more than half-a-guinea per week per patient; and considering the class of patients who frequented such establishments this certainly was not enough. Then there was a great deal of advertising in connexion with these "hydros" which was objectionable from the professional point of view.

One member present said that he knew of a case where the medical attendant's photograph was hung up in all the bedrooms. After this interlude and more members having put in an appearance, the real business of the morning began.

Mr. B. W. HOUSMAN (Stockport) read a paper on behalf of the Stockport Medical Society. He explained that there had been at Stockport some 40 clubs or medical aid societies which in 1895 only paid their medical officers 2*s.* 6*d.* per member. The male membership then numbered about 4000. The profession determined to take action, and with the exception of two practitioners all gave in their resignations, saying that they would not accept any contract work at less than 4*s.* 4*d.* per annum and this only if a wage limit was established. The members of the clubs were disposed to increase the subscription but they strongly objected to the wage limit. The ultimate result was that the six clubs held by the two medical men who had not resigned increased their subscriptions to 4*s.* 4*d.* per head per annum and excluded accidents. The remaining 34 clubs agreed to do without any medical officers. Consequently the club patients had now become private patients, to the great advantage of the medical practitioners. This had also proved an advantage to the clubs, for as the members had now to pay for medical advice there were fewer trivial cases and fewer members drew sick allowances. The Stockport Medical Society also succeeded in getting hold of the local Provident Society, where the members paid 1*d.* per week and had only one medical attendant. The Stockport Medical Society when it took over the management gave the members the choice of 14 medical practitioners, but they soon found that there were many abuses and that a large number of the patients could well afford to pay the usual fees. Consequently they wrote a report on the subject and resigned, with the result that the dispensary had now ceased to exist. The speaker then went on to denounce contract work which he maintained was but "a gamble on both sides." He had kept a careful account and had found that within a radius of one and a half miles it cost him in cash 1*s.* 2*d.* to visit a patient, whether club or private patient, so that his club practice had severely handicapped his private practice. At the dispensary they had made up 12 stock medicines of good quality and similar to those which were given to out-door patients at the hospitals. Nine out of the 12 cost more than 1*d.* per six-ounce bottle, without counting the glass. After saying a few words on the degrading effects of contract work Mr. Housman proposed, on behalf of the Stockport Medical Society, the following motion:—

> That club and friendly society contract work is undesirable and derogatory to the best interests both of patients and of the profession and that the only satisfactory alternative is to adopt a system of payment by tariff for services actually rendered.

Dr. WILLIAM MUIR SMITH (Eastbourne) then gave an exposition of the action and position of the Eastbourne Provident Medical Association. He described the growth of the movement at Eastbourne and many of the details which he gave are already familiar to our readers. He remarked that their difficulty had been with the medical aid societies and not with the friendly societies, thus showing that at Eastbourne only one side of the question had been dealt with. He was able to point out that in substituting a provident society organised by the medical profession itself for speculative and commercial medical aid societies managed by laymen the result had in no wise affected public health. On the contrary, the death- and sick-rates had steadily declined. They had the lowest death-rate in England and they had also increased the number of persons vaccinated. They had more than 4000 members and had last year distributed *pro rata* for the work done more than £1000 among the members of the profession who did this work. In conclusion, he related that a similar organisation, acting under their advice, had been started in New South Wales and was prospering.

Dr. ALFRED COX (Gateshead) then read a paper in which he insisted on the necessity of possessing precise data. Any number of complaints were made on all sides, but to prove that they were justifiable precise figures were needed. It was only necessary to take the medical journals of the last six years and by the entries in the indexes it would be seen how much the subject had grown. Nevertheless, all this mass of literature gave but few figures. Some such figures were to be found in THE LANCET reprint of the series of articles on the Battle of the Clubs and correspondence to the *British Medical Journal* had given a few more figures, but these were not enough. He had therefore made calculations in regard to his own practice for a period of three and a half years. With the Shepherds Society the average payment for that time had been 1*s.* 1¼*d.* per visit, with the Druids 1*s.* 6½*d.*, and the average of all his clubs equalled 1*s.* 4½*d.* On the other hand, he had found that it cost him 1*s.* on an average for each visit and in this he had made no allowance for clothes, pleasure, or skill. The shilling represented the indispensable out-of-pocket expenses. As the club patient provided his own bottle for medicine, and allowing 1*d.* for errors, he found that the club patient yielded a net profit of 3½*d.* per visit and the private patient 1*s.* 6*d.* per visit, and the point was that both belonged to much about the same class of workmen and both were equally well able to pay the full fees.

Dr. W. RICHARDSON RICE of the Coventry Public Medical Service, read a paper giving a short history of what had occurred in that town, facts with which our readers are also familiar. He urged that there was a class for which contract work was necessary and that the British Medical Association might with advantage lay down rules as to how this could best be provided by the medical men themselves without any intermediaries. Much depended on securing the services of a good collector who had tact and who would refrain from canvassing. But even if there was a little canvassing it was on behalf of all the medical practitioners and not to the special advantage of any one individual. It was only at quarter-day that the members of the Public Medical Service could change their medical adviser and as they were secured for three months this enabled the sale of a practice for it served as a good introduction. At Coventry they paid their dispensing chemist 1*s.* per head per member, but a large London firm had offered to open two establishments at Coventry with qualified assistants and to take less. No practitioner was allowed to have more than 2000 members on his books and they had, of course, established a wage-limit.

The PRESIDENT, who had by this time arrived and taken the chair, said that now all the papers bearing on the subject of contract work had been read he would throw open the discussion, taking for its basis the resolution proposed by Mr. Housman, and which, it should be mentioned, had been formally seconded by Dr. J. DALBERG (Manchester).

Mr. WHITAKER supported the motion which he defined as striking at all contract work including that which had been organised by the medical men themselves at Eastbourne and Coventry. Even if the medical practitioner was sufficiently paid contract work engendered suspicion on both sides. The patient thought to obtain more than was his due and at the same time suspected the medical man of neglecting his work. Then if a friendly society offered a large sum their medical officer was placed in the ignominious position of having to pay court to the more influential members of the managing committee. Yet something had to be done for those who could only afford to pay by weekly instalments. The medical profession, as a whole, should take the matter in hand. The friendly societies had elaborate statistics. It was easy to ascertain what was the sick-rate and then to estimate how much insurance money ought to be paid to provide the means of giving fees to the medical practitioners for work actually done. As a step in that direction the medical men might themselves seek to organise the contract work, as had been done at Eastbourne and at Coventry, but the ultimate object should be the total abolition of contract work and the

substitution in its stead of a system of insurance for the payment of fees.

Mr. GEORGE JACKSON (Plymouth) supported the principle of small weekly payments. Otherwise a large class of patients would resort to the Poor-law medical officers. He, however, objected to the Eastbourne Medical Provident Association doing other men's work by vaccinating gratuitously.

Mr. R. H. WOLSTENHOLME (Manchester) said that he would support the first part of the motion only. Contract work led to hospital abuse, but there were many other alternatives. In response to Dr. Alfred Cox's request for figures he submitted the following in regard to a society with which he was acquainted:—Visits in the course of one year, 8272; consultations, 13,673; medicines dispensed, 16,106; candidates examined, 257; and births attended, 44. Total payment received for all this work, £314 18*s*. He did not think that medical men should go about establishing cheap dispensaries for the people. How could they protest against contract work when they were living by it? The Eastbourne method worked out, he was told, at 6*d*. a visit and 6*d*. the medicine. They had "sixpenny doctors" in Manchester, and he did not like them; but, as they charged 1*s*. a bottle for medicine they got 1*s*. 6*d*., and this was better than the Eastbourne average. There were, he noticed, at Eastbourne and elsewhere enticing lists of high fees for surgical operations, but this was only a snare and delusion, for in such cases the patients all went to the hospital.

Mr. E. H. T. NASH (Accrington) qualified club practice as immoral, because it led to the neglect of surgical and important cases which the club medical officer passed on to the hospital. In the North the collecting system prevailed. Patients paid full fees at the rate of 2*s*. a fortnight till the bill was settled.

Dr. S. CRAWSHAW (Ashton-under-Lyne) did not believe that private patients would pay if they resorted to the collecting system. They would continue to consult their medical attendant till he pressed them too severely and then they would go to someone else. There would be many bad debts. The contract work was the best that could be done with this class of people.

The PRESIDENT now thought the time had come to close the discussion. To sum up, he agreed with Mr. Wolstenholme, for he found that at Oldham there were no clubs or contract work. The practitioners there had agreed among themselves not to accept any contract work whatsoever. The workmen paid sometimes as much as 2*s*. 6*d*. a week till they had settled their bill. It was necessary to employ a collector to get the bill paid by instalments, but this was more dignified and advantageous than the contract system.

Dr. MUIR SMITH explained that at Eastbourne they had undertaken vaccination before the adoption of the amended Act and had no desire to continue it. Their movement had not a mercenary object; its purpose had been to free the medical men who used to be bound hand and foot by the medical aid societies.

Mr. HOUSMAN, in reply, said that he was glad to see that they were unanimous in their dislike of contract work. They would not now discuss whether this contract work should be organised by medical men and he was pleased to hear that in the North they had been able to dispense with it. He would accept the amendment arising out of Mr. Wolstenholme's objection to the latter part of the motion. The motion would, therefore, read as follows:—

That club and friendly society contract work is undesirable in the best interests of both patients and the profession.

On being put to the meeting in this form the motion was carried with but one dissentient vote, given by Dr. W. Muir Smith of Eastbourne. There were then 33 members present and several among them did not vote at all.

NAVY, ARMY, AND AMBULANCE.

WEDNESDAY, JULY 30TH.

The PRESIDENT, Brigade-Surgeon-Lieutenant-Colonel G. S. ELLISTON, V.D. (Ipswich), in his opening address, said that the new army medical warrant would doubtless occupy a considerable portion of their time for discussion. The new warrant appeared to be a good one as far as it went. The Secretary of State for War practically adopted all the suggestions made to him by the journal and sub-committee of the Association, and, if administered in a fair spirit, a good class of young medical men would doubtless enter the service. In its report the sub-committee expressed "much satisfaction in the enhanced status of the Director-General in rank, position, and emolument. As a member of the War Office Council and Army Board he would now be able to exercise an important and beneficial influence, not only on the efficiency of his own department, but of that of the army at large in all that related to its sanitation." During the war in South Africa the Army Medical Department had come in for more than its share of criticism and in the near future it might be the turn of the Navy Medical Service to go through the same ordeal, therefore it behoved them to be up and doing so as to be prepared for any eventuality. Mr. Arnold Forster, in his speech introducing the Navy estimates, said that the Royal Navy now had a hospital ship in the Mediterranean, and that steps were being taken to provide material for three other hospital ships in the event of war. The hospital ship now in the Mediterranean was the *Maine*, which had been in commission for nearly a year; her duty was to collect the sick from the squadrons and to convey them to the Royal Naval Hospital at Malta, and if a large number of invalids had to be sent to England she brought them home. The ship had proved an enormous boon to the sick, who were now treated afloat and were moved about with the greatest comfort and convenience. The three other ships for which material was to be provided for use in the event of war would carry a staff of naval medical officers and nursing sisters; they would be in attendance upon the fleet during an action and would receive the wounded on board. Mr. Arnold Forster also stated that steps were to be taken to provide the necessary material for a considerable number of additional ships for use as hospitals in case of war. Some of the experiences of the Japanese in the war with China showed the need of hospital ships to accompany the fleet into action. Now that the war in South Africa was over they might look back and realise the great work which the Royal Army Medical Corps had accomplished. In spite of the hostile criticisms and unfounded charges brought against the corps there was little doubt that the general verdict of the future would be that in no previous war had the sick and wounded been so well looked after as in that one. When the war broke out it was well known that the Royal Army Medical Corps was barely up to the peace footing and it was really marvellous how the late Director-General succeeded in supplying the medical *matériel* and *personnel* with every unit that embarked. Of course, this could only be done by the help of the various volunteer organisations: the Militia Medical Staff Corps supplied 500 men, the volunteers 600, and the St. John Ambulance Brigade furnished 2000 men. The feature of this war had been the way in which the volunteers and the civil and military portions of the medical profession amalgamated and worked together and the new departure of sending out 800 female nurses was attended with the best results. Considering the undermanned state of the Royal Army Medical Corps the War Office was fortunate in having these reserves to draw upon, and yet the chief organisers who bore the heat and burden of the day were allowed to leave the service without any official acknowledgment. Referring to this point the late Sir William Mac Cormac publicly stated that "no one who had not been in South Africa itself could know of the difficulties under which the medical department had laboured. They had been blamed for that for which those in other departments were responsible, and it was somewhat strange that the Government had allowed Surgeon-General Jameson to leave the army without the customary recognition given to every one of his predecessors and without one word of thanks or acknowledgment." All through the war a person could hardly read the casualty lists without being struck with the appalling loss of life from enteric fever; the losses in the field were small compared with it, and sanitarians could not help thinking that much of it was due to preventable causes. In civil life the municipal authorities held the medical officer responsible and expected him to find out the cause and to suggest measures for stamping out the disease regardless of the cost. In military life this did not appear to be the case; a general who had a large portion of his force down with enteric fever through want of ordinary precautions in guarding the purity of the water-supply and preserving the cleanliness of his camps did not get censured, but the sanitary officer whose advice was not taken was pronounced incompetent and indirectly was blamed. No doubt the sanitary officer in war must constantly be advising things distasteful to the combatants;

this was possibly why the post was abolished at the commencement of the war. The combatants, however, should bear in mind that by safeguarding their water-supplies, attending to the sanitation of camps, and preventing infection of troops on the march, they were not only reducing the amount of sickness but were adding to the efficiency of the field force as a fighting machine. The question of sterilising drinking-water for active service was no new one, for Herodotus, "the father of history," recorded at the end of his First Book as follows: "Now the great King (Cyrus) goes on campagne with provisions carefully prepared at home, and with cattle. Moreover, he takes along with him water from the river Choaspes, which flows past Susa; of the water of that river and no other does the king drink. This Choaspes water is first boiled off and a marvellous number of four-wheeled mule wagons carrying it in silver vessels follow him from place to place wherever he marches." So that 2500 years ago we find this great Persian monarch carefully attending to the purity of his drinking-water, and whatever happened to the rest of his army he took good care not to run any risk himself. The new army medical warrant did not refer to the volunteer medical service but the Secretary of State for War had recently granted some important concessions. Authority was now given for the formation of brigade bearer companies as independent units, on similar lines suggested in a paper which he (the speaker) read before this section at the meeting of the British Medical Association in 1900. Another concession had been the incorporation of the Volunteer Medical Staff Corps into the Royal Army Medical Corps (Volunteers) with the abolition of the compound title of the officers. They all felt that the Manchester Corps had well earned distinction, that fine corps being upwards of 800 strong and having furnished strong contingents for service in South Africa.

A paper contributed by Staff-Surgeon W. J. COLBORNE, R.N., on

The Duties of Medical Officers in Connexion with a Naval Action

was read in his absence. He dealt with the subject under three heads: (1) preparation in time of peace; (2) conduct during an action; and (3) duties after the action. Each of these was handled with much technical detail.

Fleet Surgeon G. KIRKER, R.N. (Haslar), read a paper on

The Treatment of Wounded in Naval Actions.

He said that certain scant information was obtainable from the records of the Chino-Japanese and the Hispano-American wars, and the missing details could be filled in by persons acquainted with modern guns and battleships, supposing one modern power were pitted against another. He had read a paper last year at Cheltenham on the same subject under the three heads—(1) the surgeon's station; (2) the time of treatment; and (3) the conveyance of the wounded. He would now reverse that order and deal first with the conveyance of the wounded. This matter depended on the means of conveyance—the stretcher—and on the openings and passages available for use. He dealt with the facilities afforded by the "Kirker ambulance sleigh," which was so well received last year at Cheltenham and was then fully dealt with. He had made certain alterations in its construction since; it was now collapsible and its transverse diameter could be increased or lessened at will. He had provided perineal bands instead of the central saddle seat. There was now a lifting-sheet to place the patient on the stretcher and to remove him on to the operation-table. (The working of the stretcher, which attracted the interest and warm praise of the assembled naval and military surgeons, was then demonstrated.) The "sleigh" had been tried in the Channel Squadron and had been on the whole favourably reported upon and would now probably be adopted by the Admiralty. There were two classes of ships—those which possessed, and those which did not possess, ammunition hoists, and down these, if present, the wounded men could be lowered during cessation of the passage of ammunition. The hoists should open on each deck to allow of the wounded being admitted to the hoist. This procedure would be very simple and easy with the "Kirker sleigh." The hoists should in future, with this end in view, be constructed in a less constricted manner. 2. Time of treatment. The medical officers should not go on deck to treat the wounded, as efficiency was what was most desirable and the medical officers should not be incapacitated just when their services would be most needed. They should remain on their ship, but together with their instruments and appliances should be relegated to a safe place. Hospital ships were excellent but could not succour every ship and each fighting ship ought to be able to care for its own wounded until such time as help could be obtained from a hospital ship. 3. The surgeon's station. At present there was no proper station assigned to the surgeon and it was desirable to have a properly equipped place and as far as possible free from septic and insanitary conditions, as in the Japanese and German navies. This place would be as useful in peace as in war. In war the surgeon and his instruments would be adequately protected. Poisonous gases were also factors to be taken into account. Hospital ships would not always be at hand, especially in running fights and isolated fights with single ships and cruisers. Fleet actions might also cover too large an area. He then finally treated in detail the duties of the surgeons and assistants with reference to treatment and transport of wounded in action.

The PRESIDENT commended Fleet Surgeon Kirker for his careful and practical paper and thanked him for the evident pains expended in its preparation. He pointed out the need for the efficient lighting of the dressing station, as also for the efficient ventilation of the operation-rooms. There was no doubt that the "Kirker sleigh" was very well designed and he was surprised that it had not been adopted by the Admiralty before. Other nationalities had stepped in and had demonstrated its utility.

Inspector-General A. TURNBULL, R.N., retired (London), said that it was very interesting to note that there was a great deal in the old adage of there being "nothing new under the sun." He had lately been looking up some old records and he found some Admiralty regulations dated 1730 and headed "Hospital Ships," and these regulations showed that even then the arrangements were admirable. Hospital ships were things that could be very easily and rapidly equipped and fitted out. Cyrus and his water-boiling outfit was another instance of the new in the old.

Surgeon-General T. F. O'DWYER, A.M.S., said that undoubtedly Surgeon Kirker was the first to draw attention to the matter in such a way as to attract public attention. Immediately afterwards the *Times* publicly discussed the whole matter. There were two opinions in the navy—one represented by Surgeon Kirker, who held that such ships should have proper accommodation, and others who said that that was impossible. They as a nation seemed to be too conceited to learn from others. At Aldershot an American staff officer who had been sent to Europe to learn was not ashamed to learn from us. Both the navy and army wanted many more Lord Charles Beresfords. Public opinion was the only means by which these reforms could be brought about. The army had benefited by public opinion and the navy would no doubt do so also. Nevertheless, the navy was most conservative and did not like to change. Public examination of these most important matters was what was wanted, after first obtaining the opinions of those who built the ship, of those who had to fight her, and then, finally, of the man who had the medical care of her.

Surgeon-Major G. A. HUTTON, retired (Leamington), believed that Sir Frederick Treves had stated that it was better not to attempt to attend to the wounded over and above applying first temporary dressings whilst a battle was proceeding. He also believed that the present Director-General was sent by the home Government to observe the arrangements in the Chino-Japanese war.

Surgeon-Major G. K. POOLE, I.M.S., retired (London), would have liked the gentlemen contributing papers to have touched upon the matter of necessary procedure in cases of collisions and explosions, which might have been dealt with. It was no new thing to have to make shift in the services. This discussion should be brought well before the authorities of the navy. The mercantile navy should also be efficiently officered from a medical standpoint.

Dr. F. W. FORBES ROSS (London) said that whether or not they were agreed as to the desirability or otherwise of properly equipping each warship or depended mainly on hospital ships, the fact remained that the "Kirker sleigh" was most useful in either event and especially in cases involving the transport of the wounded by sea, from shore to transport or hospital ship, or from ship to ship.

Fleet Surgeon KIRKER, in replying, said that hospital ships were by all means to be provided and that he cordially advocated them and as many as possible should be provided. All modern ships were lighted by electric light. All were artificially and naturally ventilated above the armoured

deck and mainly by artificial means below the armoured deck.

The PRESIDENT put the following motion to the meeting, proposed by Surgeon-Major POOLE, and seconded by Surgeon-General O'DWYER:—

That it be a recommendation to the British Medical Association to suggest to the naval authorities the desirability of improving the accommodation and arrangements for the treatment of the wounded on board ships in action, till they can be transferred to hospital ships or suitable hospitals on shore.

The motion was unanimously endorsed.

TROPICAL DISEASES.

WEDNESDAY, JULY 30TH.

President's Address.

Sir WILLIAM R. KYNSEY, C.M.G., the President, after a few preliminary remarks, referred to the great work recently done by Laveran and others in malaria. He continued: "In the history of the past year there is no great discovery to be recorded; it may be looked back upon as one of steady progress in elucidating some of the many problems of tropical medicine, the greatest and most beneficent being in the scientific prevention of disease. In the case of yellow fever the mosquito—a culex, not anopheles—has been tried and found guilty of being the sole agent in the spread of that disease. In Havana yellow fever was endemic for a century and a half; during the past year it has been freed from the scourge by killing the mosquitoes in the neighbourhood of each focus of disease as discovered, and by carefully disinfecting every house that had lodged a yellow-fever patient in order to destroy the mosquitoes that had bitten a sick person. This great sanitary triumph must ever redound to the honour of American medicine. No excuse is necessary in this section for dwelling a little on the important subject of the prophylaxis of malaria. An epidemic of any kind is among the most costly in life and money that can befall a town or district. An epidemic of malaria differs from other outbreaks of disease in this important fact that its effects are not limited to the deaths it causes but that it often leads to years of suffering, poverty, and depopulation. I have high authority for stating that, taking one year with another, malaria destroys twice as many people in India as cholera, small-pox, and all other epidemic diseases put together. It is a matter of history that the same cause almost annihilated the soldiers of the Walcheren expedition, and the army under Wellington in Spain was so assailed by malaria that according to Ferguson the enemy and all Europe believed the British forces were exterminated. Malaria stopped the great Panama scheme of De Lesseps. I have known districts in Ceylon almost depopulated. A most disastrous outbreak occurred some years ago at Galle—a town previously malaria-free—attended with great loss of life in consequence of the construction of a railway the embankments of which were made by excavating pits at the sides that soon were filled with rain-water. In those days the origin of the fever was, of course, attributed to disturbance of soil. We now know the pits provided breeding-places for the anopheles and the Sinhalese and Tamil labourers from malaria districts supplied the organisms. Although we were ignorant of the true conditions which caused the outbreak we advised the filling up of the pits on the disturbance-of-soil theory with satisfactory results, proving that much can be done in the prevention of disease before full knowledge of causation is reached. I will only occupy a few minutes of your time while I describe two experiments—one made by the Colonial Office on Dr. Patrick Manson's advice and the other by the Japanese Government, which clearly show it is both possible and practicable to prevent malarial infection. In the experiment conducted by Dr. Sambon and Dr. Low in the Roman Campagna and in London in order to prove the truth or error of the mosquito malarial theory, and also how far protection against malaria might be consistent with the ordinary avocations of life, two experiments were necessary, one that healthy persons in London should be bitten by infected mosquitoes from a malarious region, and the second that men should live in an undoubtedly malarious place during the fever season, being protected only from the bites of mosquitoes. Those bitten in London contracted ague. Dr. Sambon and Dr. Low and two others lived in a mosquito-proof hut in a most intensely malarious place in Italy, where all the inhabitants suffered from malaria. The four inhabitants of the hut remained perfectly healthy all the time, and, I believe, are so still. The experiments by the Japanese Government were carried out on the island of Formosa, and they furnish a most conclusive demonstration of the relations between mosquitoes and malaria. A battalion of soldiers who were completely protected from mosquitoes for 161 days during the malaria season escaped the disease entirely; whereas there were 259 cases of malaria in another battalion in the same place and during the same length of time not protected from mosquitoes. I am sure you will agree with the conclusions of Dr. Sambon and Dr. Low that their experiment prove that mosquitoes only are capable of transmitting malarial fever, that protection from their bite implies absolute immunity, and that protection can be easily obtained. If further proof is considered necessary for large bodies of men it is furnished by the Japanese experiment. By a study of the life-history and surroundings of the anopheles and by varied and long-continued experiment Ross has determined the best means of preventing malarial infection. He advised the extermination of the anopheles, and although this is difficult it is not so difficult as at first sight it appears. These mosquitoes breed in small pools of a certain kind easily recognised and easily dealt with, always close to human habitations, as the females must pass frequently between the pools where they lay their eggs and the houses where they obtain their food. If the anopheles are found in a house the breeding puddles are close by. The great practical points derived from Ross's work are two: 1. That the life of the anopheles is in direct and intimate relation with the annual epidemics of malarial fever. 2. That it is only necessary to drain the anopheles puddles and not the whole of a malarious district. I believe the discovery of the malarial parasite and the investigations into the life-history of the mosquito which conveys it to man have placed us in the position to suggest measures which if carried out would have the effect in an unhealthy district of largely reducing the amount of malarial fever and eventually of exterminating it. 1. Malarial fevers should be included and notified among infectious diseases so that precautions could be taken to prevent their spread. 2. Persons, especially children, suffering from malaria infections, primary or recurrent, should be isolated and treated with quinine to prevent as far as possible the infection of mosquitoes. 3. Persons infected with malaria should be prevented coming to a healthy place to infect mosquitoes. 4. The puddles in which the anopheles breed should be drained and filled up or treated with kerosine to destroy the larvæ. 5. Doors and windows of houses, gaols, and hospitals in malarious districts should be screened with wire gauze and beds should be provided with netting to prevent mosquitoes entering and biting the occupants. I am painfully aware how far this address falls short of what might have been accomplished by a more skilful hand writing upon the all-important subject of malarial prevention, but my remarks will not be thrown away if they induce those not acquainted with recent work to take an interest in, and to appreciate, the wonderful results in tropical medicine which have followed on the discovery of the malarial parasite.

> 'Let knowledge grow from more to more,
> But more of reverence in us dwell;
> That mind and soul according well,
> May make one music as before:
> But Vaster.'"

Prophylaxis and Treatment of Beri-beri.

Dr. P. MANSON, C.M.G. (London), opened the discussion by reading a paper devoted to the study of the etiology of beri-beri, more especially as regards the part played by rice as a medium of infection. An agreement in regard to what the term beri-beri indicated was a necessity before entering into a discussion on the subject. They knew that the term had been applied to ankylostomiasis, to epidemic dropsy, to sleeping sickness, and to several specifically distinct forms of neuritis. Clinically beri-beri was a multiple neuritis, but in the tropics as in temperate regions there were many kinds of peripheral neuritis, although all had necessarily much in common clinically. Arsenical neuritis was uncommon in the tropics, but what was generally regarded as beri-beri had nothing to do with arsenic. Arsenic might be found, and was found, in the hair of beri-beri patients and even in Chinese tobacco, but there seemed no correspondence between the distribution of beri-beri and the prevalence of the use of arsenic. Again, so-called malarial neuritis was

in his opinion in the vast majority of cases really beri-beri. Beri-beri might co-exist with malaria or with tuberculosis, yet with either disease the beri-beri affection was merely concurrent. Whilst fully recognising its inadequacy Dr. Manson suggested the following features as a basis on which to found the recognition of beri-beri as a distinct form of multiple peripheral neuritis and as more or less distinguishing it from other pathological groups with neuritis as their leading clinical phenomenon: (1) ignorance of its cause; (2) its occurrence as an endemic and epidemic disease; (3) its proneness to produce cardiac disabilities and dropsy; (4) non-implication of the cranial nerves with the exception of the pneumogastric; (5) non-implication of the intellectual and emotional centres; (6) rarity or complete absence of trophic skin lesions; and (7) high rate of mortality under certain conditions. Assuming, and once more emphasising that he did not lose sight of the fact that it was an assumption, that they were dealing with only one form of neuritis in what they called beri-beri, Dr. Manson held that this neuritis was produced (*a*) by a toxin, (*b*) the product of a germ operating in (*c*) some culture medium (*d*) located outside the human body. Further, he held that (*e*) the said toxin entered the body neither in (*f*) food nor in (*g*) water but was introduced through the skin or was inhaled. The immediate cause of beri-beri he held to be a toxin. The generally recognised most important measure in the management of a case of beri-beri was removal of the patient from the place in which he sickened. This fact seemed to counter-indicate the presence of a germ in the human body affected by beri-beri. The many germs discovered from time to time in the blood of beri-beri patients had been discredited. The absence of any germ in beri-beri had been again recently refuted by Dr. Stanley of Shanghai. Although no germ was present in the blood the toxin of beri-beri was produced by a living germ. The proof of that lay in the fact that the disease could be introduced into virgin country and there spread. That was to say, the hypothetical cause was capable of being transmitted and of multiplying. Spontaneous multiplication was a property peculiar to living things. Therefore the originating agent of the toxin of beri-beri was a living thing—a germ. Dr. Manson quoted observations made by Dr. J. Bolton in the island of Diego Garcia and by Mr. E. A. O. Travers in Kuala Lumpor. Both of these, especially Mr. Travers's observations, went to prove that the toxin of beri-beri did not enter the human body in food. That beri-beri was not conveyed by water had been proved many times, so that it would appear that neither by food nor by water was beri-beri spread. So far, unfortunately, they had nothing to show either what the toxin was nor what the germ was that produced it. Neither was the precise nidus in which it was produced known nor the way the specific agent gained access to the body.

Captain E. R. ROST, I.M.S., dealt with the subject of

The Cause of Beri-beri.

He observed that during an outbreak of beri-beri in a gaol in India pigeons that lived under the gaol roof were affected by an epidemic disease which caused paralysis of their wings and death. In rice-water liquor and in mouldy rice he found a diplo-bacillus. He also found this organism in the blood and cerebro-spinal fluid of a large number of beri-beri cases. The infected blood was removed and cultures were made. The cultures were then injected into pigeons and a disease was induced which caused death and in the blood of the pigeons the same diplo-bacillus was found. An exactly similar disease was produced in fowls: (1) by feeding them on fermenting rice; (2) by feeding them on mouldy rice; (3) by intra-peritoneal injections of rice-water liquor; (4) by subcutaneous or intra-peritoneal injection of the venous blood of beri-beri patients; and (5) by re-injection from fowls suffering from the disease produced as above. He then drew attention to the etiology of beri-beri in Rangoon, which so remarkably favoured the idea of a rice origin of the disease as to leave in his mind little doubt as to the causation of the disease being due to the medium of rice infection.

Dr. L. W. SAMBON (London) failed to see how they could annul the evidence accumulated as to rice being a possible factor in the etiology of beri-beri. He did not think that rice was pathogenic because deficient in mineral and nitrogenous matters, but that rice might become the vehicle of the disease by being specifically contaminated. He did not agree with beri-beri being a toxin produced outside the body. He believed that beri-beri was caused by a parasitic agent that lived within the human body because the clinical symptoms, &c., suggested a different distribution of the parasite in different patients and in different stages of the disease in the same patient. He suggested that provisionally they should (1) restrict the rice diet to grain of good quality; (2) exclude previous sufferers from beri-beri from a gang of coolies; and (3) isolate beri-beri patients.

Major RONALD ROSS, C.B. (Liverpool), had now examined the hair of 30 persons suffering from beri-beri and arsenic had been found in 10 cases. It was peculiar that the arsenic was found only in recent cases, the older cases giving negative results in that respect. All this might be merely a curious coincidence. On the other hand, it might point to a real connexion between the poison and the disease from which the patients were suffering, a disease which of itself was very much like chronic arsenical poisoning.

Dr. C. W. DANIELS (London) said that tropical peripheral neuritis included other diseases than beri-beri, especially a post-dysenteric peripheral neuritis. It was owing to the inclusion of many diseases under the description of beri-beri that so many widely different conclusions were arrived at by workers in different countries, as they were not always describing the same disease.

Mr. JAMES CANTLIE (London) said that they must distinctly keep before them the fact that beri-beri was an infectious disease and was not due to mere scanty or deficient food. He had seen in a general ward, in which were cases of beri-beri, the disease spread to patients with open wounds whilst purely medical cases escaped, although all were supplied with the same food. All the evidence from Japan and the Dutch Indies seemed to show that the improvement in several well-known instances was due not to the improved food but to improved hygienic conditions. Although discrediting the conveyance of beri-beri by food or water it was difficult to understand how persons with merely a toxin in their blood could introduce the disease in virgin countries.

Dr. W. T. PROUT (Principal Medical Officer, Sierra Leone) gave details of a shipload of 500 negroes arriving at Sierra Leone from Panama, when it was found that half the negroes were the subject of beri-beri. Although the sick were landed and treated on shore the disease did not spread nor were the attendants upon the sick attacked. He strongly supported Dr. Manson's theory of beri-beri being due to a toxin produced outside the body.

Dr. P. A. NIGHTINGALE (Harrogate) said that in Bangkok an epidemic of beri-beri occurred some 18 months ago, although fresh rice was always used there. Beri-beri was not endemic in Bangkok and how the disease reached the town was unknown.

The PRESIDENT said that beri-beri or a form of peripheral neuritis existed in Ceylon in the early years of the occupation of that island by British troops, but as far as he was able to ascertain it was confined to native troops, especially to the Malays, and never spread to the natives of Ceylon. Beri-beri had now entirely disappeared from Ceylon and the only cases seen there were landed from ships, but in no instance had he seen the disease spread. He thought that Dr. Manson's theory of beri-beri might be given in the line of Ovid—

"Non hominis culpa, sed ista loci."

Dr. NIGHTINGALE read a paper on

The Climate and Diseases of Bangkok.

The diseases most prevalent in Bangkok were malaria, gastro-intestinal diseases, dysentery and diarrhœa, sprue, hill-diarrhœa, typhoid fever, cholera, leprosy, and renal diseases. Malignant disease was rare, as were also elephantiasis and beri-beri. Plague was unknown but climatic buboes (pestis minor) were prevalent.

Major F. SMITH, R.A.M.C., in dealing with the subject of

Enteric Fever in Sierra Leone,

said that it was very occasionally met with in that country and he recorded but 13 known cases, in some of which the disease arose endemically.

THE ANNUAL MUSEUM.

(*Continued from page 334.*)

II.—FOODS AND FOOD-PRODUCTS.

The display of special foods was on a decidedly smaller scale than on previous occasions, and the individual exhibit appear to have had less space allotted to them than hitherto

Nor was there any striking novelty in special dietetic preparations. Specially prepared milk, milk products, and malted foods were chiefly in evidence. The products of the Aylesbury Dairy Co., of 31, St. Petersburgh-place, Bayswater, London, W., are well known to be of a standard kind. Besides special milks for special needs the company exhibited specimens of kefir and kefir powders for the preparation of kefir at home where daily delivery is impracticable. By a careful selection of organisms a ferment is obtained which produces pure lactic and alcoholic fermentation. Kefir contains less alcohol and carbonic acid but more proteids (partly pre-digested) than koumiss and serves as a mild gastric stimulant. Very general interest was shown in the exhibit of sterilised milk by Messrs. C. Dreyer and Co., of Thames-chambers, Beer-lane, London, E.C. As we have pointed out, though sterilised this milk is not boiled and no chemical preservatives are employed. One very important advantage of sterilising milk without the aid of heat is that the milk is free from the so-called "boiled" flavour. The Walker Gordon Laboratory Co., of 79, Duke-street, London, W., exhibited specimens of modified milk made up to any prescription required with regard to its composition. On this stall also were specimens of Pasteurised whole milk and paraffined fresh whole milk stated to be unheated and free from preservatives. The preparations of the International Plasmon, Limited, of 56, Duke-street, Grosvenor-square, London, W., are deservedly well known by reason of their real dietetic value, the foundation of them being plasmon—the proteid of milk so separated as to retain the original organic characteristics of milk albumin. Mention should also be made of the plasmon diabetic biscuits which, while containing milk proteid, exhibit a negative reaction as regards both starch and sugar. Many varieties of food suitable for the use of diabetic patients and leaving them quite a wide choice in the matter were exhibited by Messrs. G. Van Abbott and Sons, of Borough, London, S.E. Not far off was a stall devoted to the exhibition of "Universal Digestive Tea" by the company bearing that name, of Colonial House, Dolphin-place, Ardwick, Manchester. The tea is said to be treated in a special way with oxygen, which is said to neutralise the astringent principles. Experiments were quoted recording the comparatively small effect of such tea upon the digestive processes as compared with tea not treated in this way. The preparations of the Myosin Albumin Meat Extract Company, of 107, Strand, London, W.C., have been submitted to criticism in THE LANCET laboratory. The results showed a remarkable proportion of pure unchanged beef muscle albumin, and therefore the preparation is a real nutrient, while it is easily assimilable. Messrs. Cadbury Brothers of Bournville, near Birmingham, exhibited specimens of their cocoa which, as is well known, undergoes no method of treatment by which foreign substances are introduced. Close by were the meat preparations of Messrs. Cosenza and Co. of 95, Wigmore-street, Cavendish-square, London, W. These comprised a *consommé* contained in a gelatin capsule and a tonic bouillon containing a notable amount of iron. A very good example of milk-food was that of Mr. Henri Nestlé of 48, Cannon-street, London, E.C., which presents the elements of a complete food for infants. The condensed Swiss milk of this firm is well known for its rich proportion of cream. Messrs. Keen, Robinson, and Co. of Garlick-hill, Cannon-street, London, E.C., exhibited specimens of Keen's mustard and of the well-known patent barley for making barley-water, and specimens also of patent groats. The Strenbo extract of meat, prepared by Strenbo, Limited, of Hulme, Manchester, is marked from many other similar preparations by containing an important quantity of the really nutritive matters of meat. The highly-refined vegetable fat known as albene maintains its popularity as a substitute for lard or butter for cooking and baking purposes; samples were exhibited by the manufacturers, Messrs. Broomfield and Co. of 83, Upper Thames-street, London, E.C. Quite recently we have referred to maltova, a combination of active malt extract with raw eggs. Obviously the preparation is of a highly nutritive kind. Samples were exhibited by the Maltova Food Company, 11, New Station-street, Leeds. A comprehensive series of meat preparations was shown by Liebig's Extract of Meat Company of 9, Fenchurch-avenue, London, E.C. These included lemco, a concentrated extract; oxo, a fluid beef containing the nutrient portions of meat; and peptamis, a concentrated peptone of beef. Messrs. Callard and Co. of 65, Regent-street, London, W., exhibited their well-known starchless and sugarless breads, biscuits, and cakes, besides beverages and marmalade free from sugar. Messrs. Carnrick and Co., Limited, of 24 and 25, Hart-street, Bloomsbury, London, W.C., report a greatly improved taste in regard to their beef peptonoids. The same firm exhibited a pre-digested preparation known as liquid peptonoids, which is stated to be made from beef, milk, and gluten. Mr. Hans Hoff, 29, New Bridge-street, London, E.C., exhibited his old-established proprietary, malt extract, and on the same stall ironal was exhibited, a preparation of organic iron said to be easily assimilated and without the objectionable effects of ordinary iron salts. Somatose contains the true albumose derived from beef and and is consequently a powerful and easily assimilated food. It is combined also with iron and with a proteid of milk. Pure somatose is mentioned as a useful dusting powder for ulcers by encouraging cicatrisation. The preparation is manufactured by the British Somatose Co., of 165, Queen Victoria-street, London, E.C. Messrs. Fairchild Brothers and Foster, of Snow-hill-buildings, London, E.C., exhibited their special preparations of enzymes, the exhibit including the zymine peptonising tubes and a peptogenic milk powder. We have already described the composition of virol of the Virol Company, Limited, of 152 to 166, Old-street, London, E.C. It is an emulsion of red bone-marrow, malt extract, eggs, lime, and lemon-juice, and is of value where a special food is required. Close by were the many meat preparations of the Bovril Company, Limited, whose offices are on the same premises as are those of the Virol Company. Mellin's Food Company, of Marlborough Works, Stafford-street, Peckham, London, S.E., exhibited a well-prepared cod-liver oil emulsion and a food for infants and invalids. The latter preparation is to be employed with cow's milk, the product showing then the same composition as human milk. Messrs. Brand and Co.'s list (of Mayfair, London, W.) contains a wide choice of beef preparations, including nutrient powder, meat juice, beef-tea, jellies, and so forth. A useful variation from beef preparations is the pure mutton essence known as "hipi" and prepared by Messrs. G. Nelson Dale and Co. of 14, Dowgate-hill, London, E.C. It does not contain merely the extractives of the meat, for part of the nutritive albuminous portions are present also.

III.—SANITARY APPLIANCES, DISINFECTANTS, &c.

Conspicuous in this section was the exhibition of sanitary appliances for hospital use and lavatories for operating rooms. Messrs. Doulton and Co. of Lambeth, London, S.E., exhibited two types of lavatories the feature about which was that both supply and waste can be actuated without being touched by the hand. One is provided with a treadle arrangement while the other is fitted with valves connected with levers which are worked by the elbow. The supply valve is so constructed as to give water at any required temperature and the cold supply must be turned on first so that scalding is avoided. The exhibit included also a special mortuary table and "wash down" closets. The hospital bath on wheels provided with a special brake for keeping the bath perfectly still when in use is also worthy of mention. The British Embalmers' Society of 81, Great Ancoats-street, Manchester, exhibited a complete set of embalming instruments, including a formaldehyde lamp and regenerators for disinfecting purposes. The system consists in injecting into the circulatory system and the cavities a well-known powerful antiseptic. An extensive series of antiseptic preparations, chief amongst which were creolin and its compounds, was presented to view on the stall of the Jeyes Sanitary Compounds Co., Limited, 64, Cannon-street, London, E.C. The interesting disinfectant, izal, was also shown in many forms, such as fluid, powder, lozenges, ointment, and soap by Messrs. Newton, Chambers and Co. of Thorncliffe, near Sheffield. A pleasant antiseptic is eucryl and a number of useful preparations are made with it, such as bath eucryl, toilet soap, tooth powder, pastilles, and so on, all proprietaries of Eucryl, Limited, of Sculcoates, Hull. We have already described the emergency disinfector and the Mackenzie spray recently introduced by the Thresh Disinfector Co., Limited, of 16, Great George-street, London, S.W. The action of the former depends upon the vaporisation of formaldehyde with steam. The apparatus is effectual and very convenient. The Mackenzie spray is adapted for the disinfection of walls, ceilings, and floors of a room of ordinary size. Messrs. Hendry and Pattison of 11, Hills-place, Oxford-street, London, W., exhibited an improved ventilating warm air stove suitable for hospital wards.

Fresh air is admitted to the stove under the floor and passing through a channel in the stove is gently warmed without being burned and thus the circulation of warm air is kept up. A number of filters adapted for many different purposes were shown by the Berkefeld Filter Co., Limited, of 121, Oxford-street, London, W. As is well known, these filters have successfully withstood bacteriological tests. Similarly, the Brownlow germ filter has been shown to resist the passage of germs. Various forms of this filter, both for high and low pressure, were shown by Messrs. Slack and Brownlow, of Abbey Hey, Gorton, near Manchester. Lastly, in this section may be included the oowana soap, which is made with special care as regards the selection of the base and fat, while the addition of a fluid vegetable extract makes it very suitable for delicate skins. Specimens of this soap were exhibited by Oowana, Limited, of 205, Victoria-street, S.W.

It will be seen that the representation of this section of the exhibition this year was a relatively small one.

(To be continued.)

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN ordinary meeting of the Comitia was held on Thursday, July 31st, Sir WILLIAM S. CHURCH, the President, being in the chair.

The PRESIDENT announced that Dr. David Ferrier would deliver the Harveian lecture for the year and that the Bradshaw lecture would be delivered in November by Dr. C. J. Cullingworth. Dr. A. S. F. Grünbaum had been appointed Gulstonian lecturer and Dr. T. R. Glynn Lumleian lecturer for 1903, and Dr. J. R. Bradford the Croonian lecturer for 1904.

The following gentlemen having passed the required examinations were admitted Members of the College:—Edwin H. Brown, M.D. Brussels, L.R.C.P., University of Bombay; Joseph G. Emanuel, M.D. Lond., L.R.C.P., Queen's and Mason Colleges, Birmingham; George N. Meachen, M.B. Lond., L.R.C.P., Guy's; and David W. Sutherland, M.B. Edin.

The Bisset Hawkins gold medal was awarded to William Henry Power, F.R.S., principal medical officer to the Local Government Board.

The following Fellows were elected officers of the College:—Censors: Sir R. Douglas Powell, Dr. George Vivian Poore, Dr. Frederick Thomas Roberts, and Dr. David Ferrier. Treasurer: Sir Dyce Duckworth. Emeritus Registrar: Sir Henry A. Pitman. Registrar: Dr. Edward Liveing. Harveian Librarian: Dr. Joseph Frank Payne. Library Committee: Dr. Samuel Lee, Dr. Philip Frank, Dr. J. Wickham Legg, and Dr. W. H. Allchin. Curators of the Museum: Dr. W. Howship Dickinson, Dr. H. Charlton Bastian, Dr. William Cayley, and Dr. John Abercrombie.

Dr. Henry Carr Maudsley and Dr. William C. Wilkinson, being resident in Australia, were admitted *in absentiâ* to the Fellowship.

The following were selected examiners in the subjects indicated for the ensuing collegiate year:—Chemistry and Chemical Physics: Mr. J. M. Thomson, F.R.S., Dr. H. Forter Morley, D.Sc., F.C.S., Mr. Harold B. Dixon, F.R.S., Dr. F. D. Chattaway, Ph.D., D.Sc., and Mr. H. M. Kellas, F.C.S. Materia Medica and Pharmacy: Dr. F. Willcocks, Dr. E. C. Perry, Dr. W. E. Wynter, Dr. H. A. Caley, and Dr. F. W. Tunnicliffe. Anatomy: Dr. B. C. A. Windle and Dr. A. M. Paterson. Physiology: Dr. R. A. Young, Dr. J. S. Edkins, and Dr. L. E. Hill. Medical Anatomy and the Principles and Practice of Medicine: Dr. F. de H. Hall, Sir Isambard Owen, Dr. S. H. West, Dr. P. Kidd, Dr. J. Abercrombie, Dr. Nestor Tirard, Dr. Donald MacAlister, Dr. S. P. Phillips, Dr. William Pasteur, and Dr. J. R. Bradford. Midwifery: Dr. A. L. Galabin, Dr. G. E. Herman, Dr. Amand Routh, Dr. W. R. Pollock, and Dr. E. Malins. Public Health: Dr. A. P. Luff and Dr. W. H. Hamer. After some formal business the President dissolved the Comitia.

ARMY MEDICAL SCHOOL, NETLEY.

DISTRIBUTION OF PRIZES BY THE COMMANDER-IN-CHIEF.

THE eighty-fourth, or summer, session the Army Medical School was brought to a conclusion on July 29th, when Lord Roberts distributed the prizes and delivered an address to the surgeons-on-probation who had been at the school during the preceding four months. All the probationers were for the Indian Medical Service, no examination having been held for commissions in the Royal Army Medical Corps. The Commander-in-Chief, who was accompanied by Countess Roberts, was received at the Royal Victoria Hospital by Surgeon-General Townsend, the recently-appointed Principal Medical Officer. At the ceremony there were present the Director-General of the Army Medical Service, Surgeon-General Sir William Taylor, K.C.B.; Lieutenant-General Sir T. Kelly-Kenny, Adjutant-General to the Forces; Surgeon-General Evatt, Principal Medical Officer of the 2nd Army Corps; Surgeon-General Sir Joseph Fayrer, Bart., K.C.S.I.; Colonel Cayley, C.M.G.; the Assistant Military Secretary for India; Colonel W. F. Stevenson, C.B.; Colonel W. E. Webb; the Military Staff of the Royal Victoria Hospital and Army Medical School; and a distinguished company.

The prize distribution took place at 12.30 o'clock and was opened by the reading of a report of the work of the session by Colonel K. McLeod, professor of military medicine and secretary to the senate of the school. Colonel McLeod stated that the work of the session had been most satisfactory: 36 of the candidates had passed their final examination and were recommended for His Majesty's Commission. Of these 36 officers 32 had been selected after the open competition in London and the remaining four were nominated by the Secretary of State for India after having done good work in India as civil surgeons on plague duty. The following list shows the places gained by the young officers and the prizes which the most successful ones received; the smaller number of marks shown against the names of the last four officers on the list is due to the fact of their nomination to the service, for them only the marks gained at Netley are shown.

INDIAN MEDICAL SERVICE.

List of surgeons on probation who were successful at both the London and Netley examinations. The prizes are awarded for marks gained in the special subjects taught at the Army Medical School.

The final positions of these gentlemen are determined by the marks gained in London added to those gained at Netley, and the combined numbers are accordingly shown in the list which follows:—

July 29th, 1902.

1.	F. A. F. Barnardo	*6116	
2.	J. McPherson	†5965	
3.	G. D. Franklin	5709	
4.	J. H. Gill	5684	
5.	F. Sime	‡5472	
6.	C. A. Gourley	5413	
7.	W. C. Ross...	5398	
8.	R. A. Lloyd	5283	
9.	J. C. G. Kunhardt	5279	
10.	E. A. Walker	5178	
11.	L. Cook	5131	
12.	L. B. Scott	§4961	
13.	J. H. Ferris	4834	
14.	G. I. Davys	4816	
15.	H. Halliday	4809	
16.	G. C. I. Robertson	4792	
17.	A. J. V. Betts	4782	
18.	F. E. Wilson	4722	
19.	W. S. Patton	4709	
20.	W. L. Trafford	4700	
21.	B. B. Paymaster	4690	
22.	N. W. Mackworth	4672	
23.	H. Ross	4655	
24.	J. Forrest	4645	
25.	H. Crossle	4603	
26.	L. L. Hirsch	4579	
27.	L. Rundall...	4543	
28.	E. C. C. Maunsell	4474	
29.	H. E. J. Batty...	4324	
30.	J. W. Illius	3920	
31.	D. S. A. O'Keefe	3851	
32.	J. P. Cameron	3664	
	T. H. Gloster	¶2469	
	H. H. G. Knapp	2498	
	J. H. Horton	¶2459	
	W. A. Justice	1992	

* Gained the Herbert Prize, the Parkes Memorial Medal, and the Prize in Pathology presented by Surgeon-General Sir William Taylor, K.C.B.

† Gained the Martin Memorial Medal, the Maclean Prize for Clinical and Ward Work, and the De Chaumont Prize in Hygiene.

‡ Gained the Second Montefiore Prize of £7 7s.

§ Gained the Prize in Pathology.

‖ Gained the First Montefiore Prize of £21 and Medal.

¶ Gained the Marshall Webb Prize of £5 and Medal.

The Commander-in-Chief when presenting the prizes addressed a few words to the prize-winners and specially complimented Mr. Barnardo on his success and upon the circumstance that he had already seen service in the field in South Africa.

Lord Roberts subsequently delivered an address to the young officers. He said:—

"It is with great interest that I have listened to the report which Colonel McLeod has just read to us and I am much

impressed by the statement of the admirable work which has been carried on during the 42 years the candidates for commissions in the Indian Medical Service have been trained at Netley. I quite understand the regret that this is the last occasion on which these prizes will be given away here, but I suppose there can be no doubt as to London being the most suitable place for a training school such as this, and I feel sure the authorities would not have made the change had they not been satisfied that it was necessary. There is no profession which requires more careful training than the one you are about to enter and certainly none in which constant study and research are so absolutely essential. Even in my recollection the advance made in medicine and surgery is very remarkable. A few nights ago I had the honour of meeting Lord Lister and I could not help telling him how deeply indebted we soldiers are to him for his wonderful discoveries. Only those who know what a field hospital was like 40 or 50 years ago can have any idea of what has been effected by the introduction of antiseptics. You are about to join a noble profession and you will find there are grand openings in India for those who keep themselves up to date and who are determined to get on in it. The Indian Medical Service is well paid, the pensions are good, and it affords opportunities in many and varied directions for men of ability and industry to achieve success and distinction. Time will not admit of my speaking to you of all the officers of your service who have distinguished themselves in India, but there are a few whose names I should like to mention. To go back to early days, there was a pioneer of the Indian Medical Service, Dr. William Hamilton, who nearly 200 years ago for his successful treatment of the Emperor Farrakshah obtained a grant of land for his countrymen with permission to trade. Then Fryer, Buchanan, and Barnes were distinguished as scientific observers, travellers, and diplomatists; Wilson, Sprenger, and Bellew were noted authorities in geology and palæontology; O'Shaughnassy had a large share in the organisation of the Indian Telegraph Department; Paton greatly developed the Postal Department; Macnamara and Warden were eminent chemists; Russell and Jerdon were great naturalists; Norman, Chevers, and Lyons were admitted authorities on medical jurisprudence; Brandis, Cleghorn, King (whose name will always be associated with the beautiful botanical gardens in Calcutta), and many others were noted as botanists; the Goodeves, Sir Ranald Martin, Birdwood, your own head here, Colonel McLeod, and many others that might be enumerated, were, or are, eminent as professors and writers on medicine and surgery; De Renzy, James Cunningham, and John Richardson will always be remembered as men who successfully grappled with the sanitary needs of a country in which sanitation is of vital importance; Mouat, Walker, Planck, Lethbridge, and others are identified with the excellence of the gaol system in India. Nor in such an 'honours list' must the names be omitted of such men as Campbell, Mackinnon, my old friend John Campbell Brown, and Fayrer, whom I am glad to see here to-day and whose devotion to duty I trust you will all emulate. One other name I must refer to, the late Director-General Robert Harvey, whose life was one long record of activity and usefulness. It was at his instance that the Government of India recently organised a research department for the investigation of diseases, thereby adding another and an important attraction to the Indian Medical Service—a grand field of inquiry, observation, and discovery. I must not detain you longer; I have said enough to show you the unique prospects that are open to you and it only remains for me to congratulate you all on the successful conclusion of your labours here and to express the hope that in the large field which you are about to enter you will bring your best energies to bear and will honourably maintain and, if possible, increase the splendid reputation and the grand traditions of the service to which you now belong. Let me commend the natives of India to your special care and protection. I would advise you to lose no time in learning the language and to do all in your power to cultivate the friendship of the people among whom your lot may be cast. You will be well repaid for any trouble you may take in these respects. There are many able natives in the lower grades of your own profession from whom you will obtain valuable assistance if you treat them with kindness and courtesy."

The Director-General, A.M.S., and Sir Joseph Fayrer then addressed some words of advice to the young officers and the proceedings were brought to a termination by Surgeon-General Townsend who thanked the Commander-in-Chief for coming to distribute the prizes and for his address. The officers of the Royal Army Medical Corps subsequently entertained the company at luncheon.

METROPOLITAN HOSPITAL SUNDAY FUND.

A MEETING of the Council of this Fund was held at the Mansion House on August 5th, when the Right Hon. Sir JOSEPH DIMSDALE, Bart., M.P., Lord Mayor, president and treasurer of the Fund, occupied the chair. Amongst those present were Sir Sydney Waterlow, the Earl of Meath, the Rev. Canon Fleming, Mr. Thomas Wakley, Dr. J. G. Glover, the Rev. Dr. Adler (the Chief Rabbi), Sir William Church (President of the Royal College of Physicians of London), Mr. C. Macnamara, Captain Cundy, Sir H. C. Burdett, the Earl of Stamford, Mr. Alfred Willett, and Mr. F. H. Norman.

The following is the annual general report of the Committee of Distribution:—

The Committee of Distribution recommend awards this year to 202 institutions. The amount of collections, including interest from the Court of Chancery, to the present time is £29,600. The distribution of £57,800 to 147 hospitals, &c., and to 55 dispensaries is now recommended.

This year 204 institutions, or four more than last year, have made applications for grants from the funds at your disposal. The committee of one old-established hospital, not being in immediate want of funds, did not seek to participate. Of this number it was found necessary to invite the attendance of deputations from the governing bodies of 17 institutions. Your committee, after a conference with representatives of 10 hospitals and two dispensaries where the expenditure appeared to them to be excessive have reduced their bases, and of five other institutions which did not send deputations to confer with your committee three had their bases reduced, and in the case of one hospital and one dispensary no award was made. In the case of the two dispensaries the explanations given were satisfactory.

The serious attention of the committee has been drawn to the increasing cost of maintaining the in-patients in several hospitals. This is a matter which they have already considered and purpose to investigate still further hereafter.

Mr. George Herring having again most liberally offered a donation of £10,000, or to give one-fourth of the amount collected in places of worship and the latter proposal having been accepted, it is satisfactory to note that a general increase has resulted and a "record" amount obtained in this memorable year at the places of worship.

The Committee have decided to recommend that the "extraordinary repairs and building improvements" will not in future be included in the bases, so that the money distributed will be wholly awarded to the "maintenance" of the patients.

Five per cent. of the total sum collected is set apart to purchase surgical appliances (in obedience to Law XII.) in monthly proportions during the ensuing year.

The LORD MAYOR, in opening the proceedings, said that it gave him great pleasure to announce that in this, the thirtieth, year of the Fund the sum of £60,000 had been collected, and he had every reason to hope that before the end of the financial year on Oct. 31st the total amount would exceed that of any previous year. The collections in places of worship reached the sum of £45,000, an increase of £9000 over last year's total and a record amount. Mr. George Herring's proposal had proved a great incentive to the congregations. Without desiring to make invidious comparisons he would like to state that St. Paul's Cathedral had collected the sum of £2129 as the result of a special appeal which he had made and Christ Church, Lancaster-gate, in response to Prebendary Ridgway's appeal, had collected the large sum of £1628, while St. Michael's, Chester-square, by the efforts of Canon Fleming, had contributed £1388 to the Fund. Since its inception Canon Fleming's untiring energy on its behalf had resulted in the Fund benefiting by the large sum of £25,000. St. Peter's, Eaton-square, had collected £995 and the church which he (the Lord Mayor) himself attended had contributed £569 towards the general total. Westminster Abbey had not yet sent in the amount collected on Hospital Sunday. While congratulating themselves on the substantial increase in the total collections from places of worship the Lord Mayor said that the Council and friends of the Fund should not forget the very liberal response which is always made by the Jewish community. He specially desired to call the attention of the Council to the fact that there were many beds still unoccupied in several of the hospitals—notably at Guy's and the Metropolitan Hospital, Kingsland-road, and it was worthy of consideration whether donations from the Fund should be given while beds remained unoccupied. He called attention to the recommendation of the Distribution Committee that the whole of the money given to the hospitals should go

towards the maintenance of the patient and not be spent on "bricks and mortar." A large amount of the total sum collected by this fund was subscribed by what he might call the poorer portion of the people of London and the idea of these subscribers was that the money should be spent on the patients themselves. The Lord Mayor concluded by stating how pleased he was that during his mayoralty a record collection had been made, while he expressed his deep regret for the loss which the Fund had sustained by reason of the death of his old friend, Sir Richmond Cotton, and the resignation of Colonel Francis Agar.

Sir SYDNEY WATERLOW, in proposing

That the report of the Committee of Distribution for the year 1902 be and is hereby approved, and that the several awards recommended be paid as soon as possible,

said that this was a red-letter day in the history of the Metropolitan Hospital Sunday Fund, for after 30 years of the working of the Fund they were able to announce the largest collection that had ever been made. He referred to the founding of the Fund in 1872 and the collection which was made in the following year amounting to nearly £28,000. The total collection had year by year increased and there could be no better evidence of the confidence which the public placed in the Fund than this fact. The labours of the Distribution Committee had been exceptionally heavy during the past year and there were a larger number of deputations from hospitals received. As yet they had not been able to fix upon a maximum cost per bed in-patient in the hospitals, though the matter had received careful consideration.

The Earl of STAMFORD seconded the motion.

Sir HENRY BURDETT, referring to the Lord Mayor's remarks respecting empty beds at Guy's Hospital, asked whether it was not the case that the beds were set apart for paying patients. He noticed, he said, that a grant had been refused to the Hospital of Saint Francis, an institution which, in his opinion, was not entitled to the name of "hospital." He thought that the Council should make a rule that no new institution should be eligible to apply for a grant unless it had first been inspected by someone connected with the Fund.

Sir SYDNEY WATERLOW, replying to Sir Henry Burdett, said that representatives of the Hospital of Saint Francis had been invited to attend the Distribution Committee but no notice was taken of that invitation.

The LORD MAYOR also, in reply to Sir Henry Burdett, said that what he meant by remarking that Guy's Hospital had beds unoccupied was that beds had now to be used for paying patients which under other circumstances would be utilised for the poor.

The motion was then carried.

Sir WILLIAM CHURCH moved:—

That the cordial thanks of the Council be given to George Herring, Esq., for his continued and generous donation to the Fund, which has materially assisted in raising the total collections this year to a record amount.

Canon FLEMING, in seconding the motion, said that the result of this year's collection showed that King Edward's Fund and the Metropolitan Hospital Fund were not antagonistic but really helped each other.

The motion was carried.

Dr. ADLER proposed, and Mr. MACNAMARA seconded, the following motion, which was carried:—

That the cordial thanks of the Council be and are hereby given to Sir Sydney H. Waterlow, Bart. (chairman), and to the other members of the Committee of Distribution for the care bestowed in the preparation of the awards they have recommended.

Mr. ALFRED WILLETT, in proposing

That the thanks of the Council be and are hereby given to the editors of newspapers who have pleaded the needs of hospitals and advocated the cause of this Fund,

paid a special compliment to THE LANCET for the work which that journal had done in the cause of the Fund.

The Rev. Canon BRISTOE seconded the motion, which was then carried.

On the motion of the LORD MAYOR a special vote of thanks was accorded to Sir Edmund Hay Currie, the secretary of the Fund, which was seconded by Sir SYDNEY WATERLOW and supported by Sir HENRY BURDETT, who said that there would not have been a record collection this year had it not been for Sir Edmund Currie. The vote of thanks was carried unanimously and briefly replied to by Sir Edmund Currie.

On the motion of the Earl of MEATH, seconded by Mr. F. H. NORMAN, the cordial thanks of the Council was given to the Lord Mayor who, as president and treasurer, had devoted his valuable time and influence to the well-being of the Fund. To this the LORD MAYOR replied and the proceedings terminated.

ARMY MEDICAL REPORT FOR 1900.[1]

FIRST NOTICE.

IT is to be regretted that Government publications, upon the drawing up of which great care and labour have been bestowed, attract, as a rule, so little attention. There are, no doubt, several reasons why this should be the case. To begin with the number of publications of all sorts in the present day is such that it is extremely difficult, if not impossible, to keep up with them; the shelves and tables of medical and scientific societies groan under the weight of periodical literature. Official reports when relating to matters of public health largely deal, moreover, with figures, and the ordinary reader has no taste for anything in the shape of statistics; then official reports are not up-to-date in the sense that they often relate to facts and occurrences long preceding the time of their publication and there is, so to speak, no end to their number. Be all this as it may there can be no doubt that many valuable reports—such as those of the Sanitary Commissioner with the Government of India, for example—share a common fate in this respect, that they are altogether unread or only referred to by those who are in search of special data or who are specially interested in some particular subject. It becomes a seriously increasing difficulty with journalists desirous of keeping their readers *au courant* with medical progress in this country and abroad to cope with the number of books, periodicals, and pamphlets which find their way to an editor's library table.

To turn from these prefatory remarks, however, to the report on the health and sanitary condition of the army for the year 1900. In a volume of some 537 pages we can only pretend to deal with a few of the statistical results and to touch upon a few salient points which happen to strike us.

With regard to South Africa we learn that no annual returns of sick having been submitted statistics for comparative purposes cannot be prepared and we must consequently wait till a medical history of the war has been drawn up.

From the excellent general summary of the health of the troops at home and abroad we find that their average strength (exclusive of South Africa), as computed from the returns received by the Army Medical Department, was 226,276 warrant officers, non-commissioned officers, and men. The admissions to hospital represent a ratio of 827·7 per 1000 on that strength and the deaths one of 9·05 per 1000 on a strength of 247,819, which includes detached men not shown in the foregoing returns.

A glance at the tables on pages 4 and 5 of the report will enable the reader to compare the statistical results of 1900 with those of the previous ten-yearly periods from 1890 to 1899; only it has to be borne in mind that whereas those for South Africa and St. Helena are omitted in the former they are included in the latter (the ten-yearly tables). The results are thrown into tabular form and arranged in columns under different headings in sufficient detail to afford all necessary information for gauging the health of the army. Speaking generally the results for 1900 are satisfactory. The death-rates at Gibraltar and Bermuda occupy a low, and those in China, India, and on shipboard a relatively high, place in the table. Extra hospital accommodation had to be provided for the reception and disposal of 34,452 invalids returning from South Africa during the year, and for this purpose Doecker huts, huts of War Office design, hospital marquees, and in some cases hired buildings, were largely used in order to supplement the existing hospital accommodation at numerous military stations and camps in England.

It is satisfactory to notice the continued decline of enteric fever at Bermuda—probably attributable to the replacement of the dry-earth system of conservancy by a water-carriage system and a careful attention to sanitary detail. Bermuda is a station which offers many facilities for introducing and

[1] Army Medical Department Report for the year 1900, with appendix. Vol. XLII. London: Printed for His Majesty's Stationery Office by Harrison and Sons, St. Martin's-lane, Printers-in-ordinary to His Majesty. 1902. Price 2*s.* 3*d.*

carrying out a more effective system of sewage disposal than has hitherto existed there. In Mauritius the general health of the troops had improved. There had been no case of plague among the troops; malarial fevers and venereal diseasess had declined but the number of cases of enteric fever had increased. Port Louis is the main seat and source of unhealthiness, and the troops should as far as possible be located at Curepipe and in the uplands. At Ceylon there had been a marked decrease in the admissions for malarial fevers in 1900 and considerable improvement in the admission rate for venereal diseases.

In the Straits Settlements the health of the troops had been exceptionally good. More stringent measures, through the instrumentality of a local ordinance lately introduced, have been taken with much apparent success in repressing the spread of venereal diseases, and the same may be said in regard to China.

In Egypt the general health of the troops is stated to have been good. With regard to the recent sudden and severe outbreak of cholera at Cairo, we may remark *en passant* that so far as the British troops are concerned the best thing to do is to remove them at once from Cairo to Helouan and the desert, and we are glad to notice that this is being done.

In India there was an increase in the death and invaliding rates, but a decrease in the admission and constantly sick rates. The decrease of enteric fever is a notable feature and, as we have previously had occasion to point out, might have been expected from the fact that, owing to the late war in South Africa and the cessation of the usual reliefs, there has been a decreased supply of susceptible material arriving in India. Of course, there are other things to be taken into account, but we reserve our remarks on this subject for the present. There is much in this report about enteric fever. The researches of various experts abroad as well as those of Dr. P. Horton-Smith and others in this country, the remarks in Munson's "Military Hygiene," and the labours more especially of the special medical commission appointed by the United States Government to report upon the causes of the great and widespread prevalence of typhoid fever among the American troops during the late war with Spain, have greatly added to our knowledge and have thrown a new and strong light on the etiology and pathology of that disease, especially in relation to its prevalence in camps and armies. The general trend of these investigations is strongly to discredit the correctness of any one and exclusive view of causation, such, for example, as that the typhoid fever of armies is solely a water-borne disease. But the subject is too large to be discussed in the present article; we may, however, remark that the results and bearing of the American investigations are important and demand attention.

ASYLUM REPORTS.

County and City of Worcester Asylum (Annual Report for 1901).—The average number of patients resident during the year was 1174, comprising 527 males and 647 females. The admissions during the year amounted to 246—viz., 113 males and 133 females. Of these 210 were first admissions. Mr. G. M. P. Braine-Hartnell, the medical superintendent, states in his report that among the patients admitted 165 were in indifferent health and enfeebled bodily condition, and 50 were in bad health and exhausted condition. The number of patients discharged as recovered during the year amounted to 97—viz., 48 males and 49 females, or 8·26 per cent. of the average number resident. The deaths during the year amounted to 108, or 9·2 per cent., as calculated on the same basis. Of the deaths four were due to renal disease, five to epilepsy, 10 each to phthisis and cardiac disease, 13 each to senile decay, colitis, and general paralysis of the insane, 20 to pneumonia, and the rest to other causes. Post-mortem examinations were made in 93 out of 108 cases. Among zymotic diseases which occurred during the year were chicken-pox, which attacked two male patients, and typhoid fever, which affected one male patient. Colitis caused a good deal of trouble by reason of its occurring in irregular outbreaks. "Various methods of treatment [for colitis] much recommended in other asylums were tried but without satisfactory results." The desire to improve the system of nursing in the asylum has led to the introduction of trained nurses in the male wards, and the new system is being watched carefully in order to determine whether a more extensive adoption of it would be justified. The method has been tried in Scotland, says Mr. Braine-Hartnell, "and its advocates are loud in their praise. I think we ought to be able to show that the increased cost would give an increased recovery rate before we make such wide and sweeping changes." The Commissioners in Lunacy state in their report that they were able to form a very favourable opinion of the condition of the asylum, that the wards were in excellent order and the day-rooms tastefully decorated, that the sanitary conditions were generally excellent, and that the medical case-books and records were very well kept. The committee of management states in its report that a cemetery for the interment of patients dying in the asylum was duly consecrated by the Lord Bishop of Worcester in July. The maintenance charge per week for patients is 7*s.* 7*d.* per head which was the same as that of the previous year.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A MEETING of the Council was held on July 31st, Sir HENRY G. HOWSE, the President, being in the chair.

It was resolved:

That 500 copies of vol. ii. of the Catalogue of the Physiological Series of Comparative Anatomy should be printed.

The balance-sheet for the year ending June 24th, 1902, was laid before the Council. The chief points in the accounts are as follows. The gross income of the College for the year has been £26,954, being £850 greater than in the previous year. The expenditure for the year amounts to £24,377. The balance of income over expenditure amounts to £2577; if, however, allowance is made for the sum of £479 paid for rates due in respect of the previous year it will be found that the income has exceeded the actual expenditure of the year by £3056. During the year the investments of the College have been increased by £3000.

The receipts from the Fellowship examination have been just sufficient to defray the out-of-pocket expenses.

The balance-sheet was approved and adopted.

Mr. C. H. Golding-Bird was re-elected a member of the Court of Examiners.

Mr. W. B. Paterson was elected a member of the Board of Examiners in Dental Surgery.

A report was received from the committee appointed to receive a deputation from the Association of Licentiates of the Royal College of Physicians of London and Members of the Royal College of Surgeons of England, and it was resolved to refer the petition to the Conjoint Committee of the two Colleges recently appointed to consider the possibility of a connexion with the University of London for certain purposes.

A letter was read from the Principal of the University of London thanking the Council for allowing the University to use specimens from the Museum of the College for examination purposes.

An application was read from Dr. William Stirling, Dean of the Medical School of the Owens College, Manchester, for permission to have casts taken for that school of the busts of Sir Charles Bell, Sir Astley Cooper, and John Abernethy.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

A QUARTERLY meeting of the College was held on July 29th, Sir THOMAS R. FRASER, the President, being in the chair.

The VICE-PRESIDENT congratulated the President in the name of the College on the honour of knighthood which had been conferred on him by the King, and the PRESIDENT, in reply, expressed his gratification at having been the medium through which the College had received recognition from His Majesty.

Dr. William Blackley Drummond and Dr. John Eason were admitted by ballot to the Fellowship of the College.—

Dr. G. F. B. Simpson was admitted by ballot to the Membership of the College after examination.

The SECRETARY reported that since the last quarterly meeting 61 persons had obtained the Licence of the College by examination.

The regulations regarding the single Licence and Membership and Fellowship of the College for the ensuing year were approved.—The SECRETARY announced that, in virtue of an alteration of the articles of agreement existing between the College and the Royal College of Surgeons of Edinburgh and the Faculty of Physicians and Surgeons of Glasgow the College would henceforth admit Licentiates of the Society of Apothecaries of London and of the Apothecaries' Hall of Ireland to examination for the single Licence of the College.

The Queen Victoria Cullen Prize of £100, which is in the gift of the College and is awarded every four years to a Fellow, Member, or Licentiate of the College "for the greatest benefit done to practical medicine," was on this occasion divided between Dr. J. W. Ballantyne and Dr. J. C. Dunlop.

The College expressed its concurrence with the recommendation made by the Royal College of Physicians of London that in certificates of death the term "epidemic enteritis" should in future be used in place of "epidemic diarrhœa," and its conviction that the general adoption of this recommendation by the practitioners of Scotland would be highly advantageous in the interests of the public health and of accuracy in the national records of mortality.

The PRESIDENT was nominated as a member of the General Committee of the Cancer Research Fund.

The PRESIDENT announced that he had accepted an invitation from the President of the Royal College of Physicians of London to act as a member of the committee for the preparation of the revised version of the official "Nomenclature of Disease."

A report prepared by a committee of the College as to the way in which that part of the Carnegie gift devoted to the advancement of medical science might best be applied was submitted and approved by the College.

The Secretary laid on the table the annual statement by the Governing Board of the School of Medicine of the Royal Colleges in terms of the constitution.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On a Localised Outbreak of Enteric Fever at Coventry, by Dr. L. W. DARRA MAIR.[1]—The occurrence within a very restricted area of a sudden and severe epidemic of enteric fever at once raises suspicion of pollution of a well or other limited source of water-supply, and the outbreak on which Dr. Mair reports affords a striking example of the behaviour of a localised epidemic clearly attributable to infection distributed in this way. Out of 82 cases of enteric fever notified in Coventry during the third quarter of 1901 no fewer than 60 occurred among the inhabitants of a "blind" street, named Sherbourne-street, and in courts leading off it. In this small area there are 86 houses, and in 29 of these enteric fever occurred. The earliest cases were notified at the end of July, 1901, from "No. 4 court" in this area; the epidemic period began towards the end of August and lasted about three weeks, during which time 49 cases were notified from the Sherbourne-street area. By the middle of September the epidemic had practically ceased. Dr. Mair reviews at length the various facts bearing on the outbreak and illustrates the conditions obtaining in the Sherbourne-street area by an excellent map. Review of all the facts given makes it certain that the epidemic, as such, was attributable to pollution of a well in No. 4 court. The occupants of every house infected at the earlier stages of the epidemic admitted the use of this well water. In seven only out of the 29 houses in which fever occurred throughout the quarter was it alleged that this pump-water had not been consumed, and in certain of these seven houses there were reasons for considering the cases to be "secondary" to those in neighbouring dwellings. The supply of milk which was common to most of the houses infected was by no means peculiar to the Sherbourne-street area; the same milk was supplied to a larger area outside Sherbourne-street in which no exceptional enteric fever occurred. The facts squared with a hypothesis that this well water possessed infective properties during about a week on either side of August 1st, and Dr. Mair points to many circumstances which accord with this possibility. The well stands at the opening of a small court paved with cobbles or brick, allowing slop water thrown out by the inhabitants to lie about in its irregular depressions. The mouth of the well is protected by puddled clay laid on baulks of timber, but in July trenching had been going on in the court and in the neighbourhood of the well, so as to enable the public water-supply to be taken to some new water-closets being constructed at the end of the court. During July also the inhabitants of the court had their closet accommodation much curtailed owing to this proceeding, and opportunities of excrement fouling the surface were increased. Add to this that about July 26th the first known case of enteric fever occurred in a house within a few feet of the well and was not removed to hospital, and the further circumstance that a long period of hot weather in July was followed by severe rainfall on July 24th and 27th, during which one and a half inches of rain fell in Coventry, an occurrence specially likely to open up temporary channels in the clay puddling of the well. The surprising part of the story is the hesitation which seems to have been felt locally in attributing this epidemic to its source. Apparently the local authorities adopted the view, which might be thought by now to have been sufficiently often exploded, that the mere fact that chemical and bacterial examination of a particular sample had not afforded evidence of contamination was enough to outweigh strong positive evidence that the water in question had caused disease. In this case a single sample of water collected in September, nearly a month after the well had done the mischief, was analysed by the public analyst, Dr. A. Bostock Hill, who reported it to be "of remarkable purity" from the chemical standpoint. A portion of the same sample (no more than 185 cubic centimetres) was examined about a fortnight after its collection by Professor R. F. C. Leith for typhoid bacillus and bacillus coli with negative results. Professor Leith points out that the sample was too small and no doubt he would have preferred a large volume of water sufficient to treat by the far more satisfactory method of filter brushing. "The only inference to be safely drawn," Dr. Mair points out, from these chemical and bacterial results "is that if the well was polluted about August 1st the pollution no longer existed at the dates when the samples were collected." At most they suggest that exceptional circumstances must have been needed at the beginning of August to produce the specific contamination. But local inquiry showed that exceptional circumstances favouring specific contamination were present in abundance. Dr. Mair has occasion to criticise the public health administration of Coventry in certain particulars. In this epidemic it was impossible to isolate the sufferers; the system of disinfection at houses, which became, therefore, all the more important, appears to have lacked thoroughness. Good work in the infected area seems to have been done by the Coventry Nursing Institution and by the "female health visitor" employed by the corporation.

On Recurrent Prevalence of Enteric Fever in the Folkestone Urban District, and on the Sanitary Administration of the Local Authority, by Dr. THEODORE THOMSON.[2]—The problem with which Dr. Thomson deals in this report is one of considerable complexity. The difficulties met with in obtaining data which justify the attribution of an epidemic of enteric fever to a single cause or collection of causes are often great, and investigations are still more troublesome when it is desired to seek an explanation, not of a circumscribed and pronounced epidemic, but of mere abnormal prevalence of enteric fever sustained over a series of years. In localities where enteric fever is endemic inquiry not infrequently brings out the existence of various circumstances tending to give rise to, and to perpetuate, fouling of the soil surrounding dwellings or fouling of soil-water which gains

[1] London, Eyre and Spottiswoode; Edinburgh, Oliver and Boyd; Dublin, E. Ponsonby. Price 6d.

[2] London, Eyre and Spottiswoode; Edinburgh, Oliver and Boyd; Dublin, E. Ponsonby. Price 6d.

access to wells. The latter explanation is not applicable to Folkestone, which has a satisfactory water-supply derived from deep wells in the chalk and greensand; and notwithstanding certain defects in the sewerage system of the town and faulty conditions of a considerable proportion of house drains the opportunities of pollution of the soil do not appear of themselves sufficient to account for the prevalence of enteric fever. While indicating how these defective conditions have probably served to foster the local spread of the disease Dr. Thomson is able to point to other factors which have been operative during the period under inquiry. This period consists of the years 1896 to 1900 inclusive. For five years before 1896 there had been little enteric fever in Folkestone, the town contrasting favourably in this respect (as had also been the case, judging from the mortality statistics, throughout the 20 years 1871—1890) with England and Wales as a whole. From 1896 onward the incidence, on a population of about 30,000, was at a rate much exceeding that of England and Wales, and the mortality from enteric fever was correspondingly high.

Year.	Deaths from enteric fever.	Known cases of enteric fever.
1896	4	18
1897	4	40
1898	8	36
1899	16	87
1900	5	50

The report deals with the above cases year by year, and for each yearly period eliminates those known to have been "imported," or, in other words, to have contracted infection outside Folkestone, and also those in which shell-fish were suspected to have played a part. Dr. Thomson then proceeds to deal with the question of contaminated milk supplies in relation to each year's history of enteric fever. Fortunately accurate observations on this point appear to have been kept by Mr. M. G. Yunge-Bateman, the medical officer of health of the district, and by his sanitary staff, and the results are instructive. It is only possible here to give a very brief summary of a few of the chief points in each year's inquiry as to milk. 1896: Total cases 18. Group of seven cases in May, six of which, in four houses, supplied by the same milkman, whose total number of houses supplied was about 100 only. Group of other seven cases in December, six of which, in five houses, supplied by another milkman, whose total households supplied was also only about 100. 1897: Total cases 40, distributed more or less throughout the year. 14 cases in 13 houses supplied by the milkman implicated in December, 1896. 1898: Total cases 36. No evidence sufficient to implicate any one milk-supply. 1899: Total cases 87, nearly all attacked in September and October. 56 cases, in 47 houses, supplied by the four milk vendors in Folkestone who sold milk from a particular source, "AX". One of these vendors, A, sold AX milk exclusively. Enteric fever occurred in 17 out of the 100 houses thus supplied by him. 1900: Total cases 50, mostly attacked in autumn months. 34 cases in 27 houses supplied by the six milk vendors in Folkestone who in this year sold milk from the source just mentioned, AX. These six vendors together supplied 800 houses. Again AX milk alone was sold by vendor A at about 100 houses. Enteric fever occurred in six of them. On the other hand another vendor, G, also sold AX milk exclusively, and in about 100 houses thus supplied by G only one case occurred. AX milk, however, was a mixed milk, and Dr. Thomson shows the probable explanation of the difference between the incidence on A's and G's customers in certain facts which he ascertained with regard to the mixing. In 1901 only 14 enteric fever cases, several of which were "imported," occurred in Folkestone. Facts of the above sort, suggesting the influence of milk, receive confirmation from the careful study which Dr. Thomson has made of the incidence of the disease each year on age and sex. When the milk factor has been operative a considerably greater incidence on the female sex appears to have been manifest at the same time, an observation which accords with previous experience of enteric fever when spread by milk. Dr. Thomson points out that the singular feature of these repeated occurrences of enteric fever is that three distinct sources of supply have been implicated in so short a period. He indicates a characteristic common to many of the farms in the Elham and Dover rural districts, whence a large part of the milk-supply of Folkestone comes—namely, scarcity of water-supply, leading to the storage of water derived from the surface of roadways or to the use of springs liable to dangerous pollution: water, in short, derived from anywhere regardless of its quality. Conditions of this kind were shown to have attached to the three milk-supplies implicated. The report illustrates afresh the care which should be taken not to exclude milk as a cause of infectious disease because various persons attacked are ascertained to be supplied by different vendors. Milk dealers are constantly mixing milks and an instructive feature of this report is supplied by observations which indicate, so far as small numbers can, that the amount of disease caused by the implicated milk was in inverse relation to its dilution by other milk.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 9183 births and 4018 deaths were registered during the week ending August 2nd. The annual rate of mortality in these towns, which had been 14·5 and 13·9 per 1000 in the two preceding weeks, rose again to 14·1 per 1000 last week. In London the death-rate was 13·3 per 1000, while it averaged 14·5 in the 75 other large towns. The lowest death-rates in these towns were 4·8 in Hornsey, 5·4 in Tottenham, 6·8 in Croydon, 7·5 in East Ham and Handsworth, 7·8 in Reading, 8·0 in Coventry, and 8·2 in Walthamstow; the highest rates were 19·2 in Hanley, 19·7 in Liverpool, 20·4 in Bristol, 21·8 in Bootle, 22·0 in Wigan, 23·1 in Gateshead, and 25·3 in West Bromwich. The 4018 deaths in these towns last week included 579 which were referred to the principal infectious diseases, against 558 and 552 in the two preceding weeks; of these 579 deaths 177 resulted from diarrhœa, 118 from measles, 89 from whooping-cough, 75 from diphtheria, 60 from "fever" (principally enteric), 49 from scarlet fever, and 11 from small-pox. No death from any of these diseases was registered last week in Reading, Devonport, Handsworth, Stockport, St. Helens, Barrow-in-Furness, Rotherham, or Newport (Mon.); while they caused the highest death-rates in Bristol, Hanley, Liverpool, Bootle, Middlesbrough, Stockton-on-Tees, Gateshead, and Merthyr Tydfil. The greatest proportional mortality from measles occurred in East Ham, Bristol, Hanley, Walsall, Rochdale, Stockton-on-Tees, and Gateshead; from scarlet fever in Hanley and West Bromwich; from diphtheria in Bristol, Burnley, Middlesbrough, and Rhondda; from whooping-cough in West Ham, Portsmouth, and Middlesbrough; from "fever" in Ipswich and Merthyr Tydfil; and from diarrhœa in Birmingham, Nottingham, Liverpool, Bootle, Wigan, and Gateshead. The fatal cases of small-pox registered last week included seven in London, two in Liverpool, one in Tottenham, and one in Walthamstow, but not one in any other of the 76 large towns. The number of small-pox patients in the Metropolitan Asylums hospitals, which had declined from 1515 to 369 at the end of the 14 preceding weeks, had further decreased to 305 at the end of last week; 44 new cases were admitted during the week, against 51, 48, and 23 in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital on Saturday, August 2nd, was 2562, against 2352, 2577, and 2486 on the three preceding Saturdays; 382 new cases were admitted during the week, against 272, 333, and 397 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 159, 155, and 128 in the three preceding weeks, rose again to 135 last week, but were 26 below the corrected weekly average. The causes of 49, or 1·2 per cent., of the deaths registered in the 76 large towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leicester, Nottingham, Salford, Bradford, Newcastle, and in 48 other smaller towns; the largest proportions of uncertified deaths were registered in Hanley, Birmingham, Blackburn, Barrow-in-Furness, Sheffield, Sunderland, and South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 14·7 and 15·8 per 1000 in the two preceding weeks, further rose to 16·6 per 1000 during the week ending August 2nd, and exceeded by 2·5 per 1000 the

rate recorded during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 9·9 in Leith and 14·1 in Perth to 18·2 in Greenock and 18·9 in Dundee. The 535 deaths in these towns included 19 which were referred to diarrhœa, 12 to measles, seven to whooping-cough, four to diphtheria, three to scarlet fever, and three to "fever," but not one to small-pox. In all, 48 deaths resulted from these principal infectious diseases last week, against 44 and 55 in the two preceding weeks. These 48 deaths were equal to an annual rate of 1·5 per 1000, which was 0·5 per 1000 below the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of diarrhœa, which had been 13 and 21 in the two preceding weeks, declined again last week to 19, of which nine occurred in Glasgow, six in Dundee, two in Edinburgh, and two in Greenock. The deaths from measles, which had been 22, 15, and 10 in the three preceding weeks, rose again to 12 last week, and included eight in Edinburgh and three in Glasgow. The fatal cases of whooping-cough, which had been 15 and 13 in the two preceding weeks, further declined last week to seven, of which four were registered in Glasgow. The four deaths from diphtheria corresponded with the number in the preceding week, and included three in Glasgow, where two of the three fatal cases of scarlet fever were also registered. The deaths referred to diseases of the respiratory organs in these towns, which had been 62 and 80 in the two preceding weeks, declined again last week to 79, but were 14 in excess of the number in the corresponding period of last year. The causes of 29, or more than 5 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 20·2 per 1000 in each of the two preceding weeks, rose to 21·2 per 1000 during the week ending August 2nd. During the past four weeks the annual rate of mortality has averaged 19·6 per 1000, the rates during the same period being 14·1 in London and 16·4 in Edinburgh. The 154 deaths of persons belonging to Dublin registered during the week under notice exceeded by seven the number in the preceding week, and included 29 which were referred to the principal infectious diseases, against 14 and 15 in the two preceding weeks; of these 18 resulted from measles, five from diarrhœa, two from whooping-cough, two from "fever," one from scarlet fever, and one from diphtheria, but not one from small-pox. These 29 deaths were equal to an annual rate of 4·0 per 1000, the death-rates last week from the same diseases being 2·1 in London and 1·9 in Edinburgh. The fatal cases of measles, which had been eight in each of the two preceding weeks, increased last week to 18; the deaths from diarrhœa, which had been one and three in the two preceding weeks, further rose to five last week; the mortality from whooping-cough and from "fever" was slightly in excess of that recorded in the preceeding week; while from scarlet fever and diphtheria the deaths corresponded with the numbers in the preceding week. The 154 deaths in Dublin last week included 26 of children under one year of age and 35 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons showed a decline from the numbers in the preceding week. Eight inquest cases and six deaths from violence were registered, and 68, or nearly one-half, of the deaths occurred in public institutions. The causes of six, or nearly 4 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE undermentioned Surgeons have been promoted to the rank of Staff Surgeon in His Majesty's Fleet:—Henry William Finlayson, Frederick Fedarb, Richard Cleveland Munday, Edward Carter Cridland, Frank Bradshaw, Matthew Joseph O'Regan, and Richard Francis Bate.

The following appointments are notified:—Fleet Surgeon C. W. Sharples to the *President*, for Deptford Victualling Yard. Staff Surgeons: O. W. Andrews to the *Diana* and R. Hardie to the *Resolution*.

ROYAL ARMY MEDICAL CORPS.

The date of the placing on half-pay on account of ill health of Lieutenant O. Challis should be July 5th, 1902, not as stated in the *Gazette* of July 22nd, 1902.

Lieutenant E. W. Herrington, on relinquishing his temporary commission for service in South Africa, is granted the honorary rank of Lieutenant in the Army, with permission to wear the uniform of the corps. Dated July 19th, 1902.

Lieutenant-Colonel P. M. Ellis is appointed to the command of No. 9 Company and to the medical charge of the Station Hospital at Colchester. The orders of Colonel G. D. N. Leake to proceed to Colchester to take over the duties of his appointment as Principal Medical Officer, Eastern District, are postponed for the present. Captain T. P. Jones joins at Aldershot for duty and takes over medical charge of the Royal Artillery in Wellington Lines. Captain H. Herrick is appointed to the medical charge of the Station Hospital, Satara, as a temporary measure.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain R. Stirling to be Surgeon-Major. Dated August 2nd, 1902.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Lancashire: Surgeon-Lieutenant F. F. German to be Surgeon-Captain. 9th Lancashire: Surgeon-Captain A. Cosgrave to be Surgeon-Major. 1st Warwickshire: George Haddow to be Surgeon-Lieutenant. 1st North Riding of Yorkshire: Surgeon-Lieutenant S. Farmer to be Surgeon-Captain.

Royal Engineers (Volunteers): 1st Aberdeenshire: Surgeon-Captain J. J. Y. Dalgarno to be Surgeon-Major. 1st West Riding of Yorkshire (Sheffield): Surgeon-Captain C. H. Willey to be Surgeon-Major.

Submarine Miners: The Tay Division: Surgeon-Captain G. O. C. Macness to be Surgeon-Major.

Rifle: The Queen's Rifle Volunteer Brigade the Royal Scots (Lothian Regiment): The undermentioned Surgeon-Captains to be Surgeon-Majors:—A. D. Webster and W. H. Miller. 2nd Volunteer Battalion East Yorkshire Regiment: Surgeon-Lieutenant S. H. Johnson resigns his commission. 2nd Volunteer Battalion the Lancashire Fusiliers: Surgeon-Captain W. M. Hamilton to be Surgeon-Major. 4th Volunteer Battalion the Cheshire Regiment: Surgeon-Captain G. W. Sidebotham to be Surgeon-Major. 5th Volunteer Battalion the Cheshire Regiment: The undermentioned Surgeon-Captains to be Surgeon-Majors:—J. H. Hacking and C. Averill. 2nd Volunteer Battalion the Royal Welsh Fusiliers: Surgeon-Major E. Williams to be Surgeon-Lieutenant-Colonel. 1st Volunteer Battalion the South Staffordshire Regiment: Surgeon-Captain C. T. Griffiths to be Surgeon-Major. 2nd Volunteer Battalion the Prince of Wales's Volunteers (South Lancashire Regiment): Surgeon-Captain F. J. Knowles to be Surgeon-Major. 6th (Fifeshire) Volunteer Battalion the Black Watch (Royal Highlanders): The undermentioned Surgeon-Captains to be Surgeon-Majors: C. E. Douglas, C. N. Lee, J. Mackay, and D. H. Kyle. 13th Middlesex (Queen's Westminster): Surgeon-Captain P. P. Whitcombe to be Surgeon-Major. 2nd Volunteer Battalion the Manchester Regiment: Surgeon-Captain G. H. Darwin to be Surgeon-Major. 5th Volunteer Battalion the Durham Light Infantry: Surgeon-Captain A. P. Arnold to be Surgeon-Major. 3rd (The Blythswood) Volunteer Battalion the Highland Light Infantry: The undermentioned Surgeon-Captains to be Surgeon-Majors:—R. Pollok and A. D. Moffat. 1st Dumbartonshire: Surgeon-Captain J. R. F. Cullen to be Surgeon-Major.

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Edinburgh Company: Captain D. Wallace, C.M.G., to be Major. Glasgow Companies: George Gordon to be Lieutenant.

BEARER COMPANY.

1st Lothian: Surgeon-Captain A. Macdonald, from the Queen's Rifle Volunteer Brigade, the Royal Scots (Lothian Regiment), to be Surgeon-Captain, and to command under paragraph 55A Volunteer Regulations. Surgeon-Captain C. R. Ker, from the Queen's Rifle Volunteer Brigade the Royal Scots (Lothian Regiment), to be Surgeon-Captain. Surgeon-Lieutenant A. A. Ross, from the Queen's Rifle Volunteer Brigade the Royal Scots (Lothian Regiment), to be Surgeon-Lieutenant.

SOUTH AFRICAN NOTES.

The following have been discharged from hospital to

duty:—Civil Surgeons Maclean, Pemberton, Tough, Miller, and McEwen.

SOME SOUTH AFRICAN AND OTHER AFFAIRS.

It is much to be regretted, we think, that the question of Supply should come up for the consideration of the House of Commons when Members on both sides of the House are wearied and jaded and when the time allotted for the discussion of estimates has to be much restricted. There are a great many matters connected with the Army Estimates as a whole and with the section relating to army medical establishments which we should have liked to have seen more thoroughly threshed out.

There are a few points in the current news connected with the late war which possess sufficient medical interest to be worthy of record. General Lukas Meyer, who seems to have been on the whole much gratified with the results of his reception in this country, is proceeding to Carlsbad to undergo a course of treatment there before returning to South Africa in November. Intelligence received from the Hague informs us of the arrival of ex-President Steyn and of his having been visited by Professor Winkler, accompanied by Dr. Keuchenius. It is known that Mr. Steyn's health, as the result of the labours, hardships, and anxieties which he underwent during the war, completely broke down in South Africa. The exact nature of his complaint has never been definitely stated, but we are glad to learn that Professor Winkler and Dr. Keuchenius, as the result of their examination, are of opinion that the paralysis of his limbs is due to privations and overwork. They have good hopes of the ex-President's recovery, which, however, naturally will be slow.

According to a telegram from Wellington, through Reuter's agency, the troopship *Britannic* had arrived there from Durban with 55 cases of sickness on board. Three deaths took place during the voyage and one since the vessel came into port. It is alleged that the vessel was overcrowded. No particulars are given, but we trust that a searching inquiry will be instituted into the matter and as to the truth or otherwise of the alleged overcrowding.

SOLDIERS' GUARD BEDS.

We are glad to notice that there is a prospect of something being done at last in the way of improving the beds in guard-rooms and that the Secretary of State for War lately, in reply to a question by Captain Jessel, has stated that an experimental trial of a new form of bed is being made. Theoretically soldiers on guard are supposed to be always, more or less, on the alert and ready to turn out at a moment's notice, and we must say that the military authorities have done their best to carry this into effect by making the soldier on guard as uncomfortable as may be. It would surely be possible to devise something better than the old pattern guard bed, which is a sort of low wooden platform open to various objections in regard to the maintenance of cleanliness, hygiene, and personal comfort. Instead of a rigid wooden platform some sort of removeable wire-woven design of a specially durable nature, but which was permeable to air, might probably be constructed in order to remove or lessen these objections whilst not unduly adding to the comfort of the soldier on guard duty.

THE HAMBURG INSTITUTE OF NAVAL AND TROPICAL HYGIENE.

According to the *Archives de Médecine Navale* for June the city of Hamburg has placed 25 beds in the old general hospital at the disposal of the port medical officer for the reception of sailors suffering from internal affections. Hamburg has also been endowed with a hygienic institute, having at its head a medical man nominated by the civic authorities with the approbation of the colonial section. The medical officer-in-chief has three assistants in whose charge respectively have been placed the departments of clinical medicine, non-clinical research, and hygienic chemistry. From 10 to 12 fully-equipped tables for research work are to be maintained, five of them at the expense of the Empire. It is, moreover, in contemplation to construct a hospital for sailors, to contain 60 beds, adjacent to the Sailors' Home. The cost of the building is estimated at 120,000 francs (£4800).

DEATH OF A CENTENARIAN.—The death occurred on July 25th at Bere Heath, near Dorchester, of a labourer named Winter who had reached the age of 100 years and six weeks.

Correspondence.

"Audi alteram partem."

THE MEDICAL SERVICE OF THE MERCANTILE MARINE.

To the Editors of THE LANCET.

SIRS,—I have recently spent two and a half years at sea, serving in five different steamers as ship's surgeon, and I am bound to confess that £10 a month and all found does seem to me a fair salary, except perhaps when there are many steerage passengers. Rank and pay do not correspond on board ships; for instance, the second engineer ranks below the second officer yet is much better paid. Consequently, Mr. Ogilvie's comparison between the salaries of the surgeon and second officer is beside the point. The second officer is a very hard-worked official, especially in port, and in my opinion really is under-paid. The surgeon has not much work as a rule, and when in port usually goes ashore and has a good time.

If medical men spent, like other ship's officers, their lives at sea no doubt they would be better paid. It is, perhaps, fortunate that there is no inducement to stay long at sea, for there is little professional experience to be gained on board ships, and it is, in fact, a lazy life in most cases. I have always been treated by the crew and passengers with the consideration due to a senior officer and by my brother officers as an equal and a friend. Once only have I had reason to complain of my cabin and that was soon rectified. With regard to passengers' "fees" I find myself more in accordance with Mr. Ogilvie. I always refused them myself because I felt that as I had no right to ask for them they were really "tips." I should certainly advise ships' surgeons never to take money from passengers, for I know from the many comments that I have heard that the practice does tend to lessen the respect which is the rightful due of the ship's surgeon.—I am, Sirs, yours faithfully,

RICHARD KAY, M.B. Lond.,
Late Surgeon to the Peninsular and Oriental Steam Navigation Company.

Rochdale, August 2nd, 1902.

HORSE-DUNG IN LONDON STREETS.

To the Editors of THE LANCET.

SIRS,—Mr. Beale Collins, when writing on the above subject in THE LANCET of July 26th, p. 245, says that he has known one or two outbreaks of diphtheria attributable, he thinks, to London stable manure; but he surely cannot consider this to be pure horse-dung. Blood and all kinds of decomposing animal matter get thrown upon manure heaps and I should say that it is to these if anything that the outbreaks of diphtheria he noticed were to be attributed.

I am, Sirs, yours faithfully,

Bexhill-on-Sea, July 31st, 1902. F. P. ATKINSON.

THE MENTHOL TREATMENT OF PULMONARY PHTHISIS.

To the Editors of THE LANCET.

SIRS,—At a time when the professional and public mind is so largely directed to the question of tuberculosis it may serve some useful purpose to draw attention to a method of treatment of pulmonary phthisis which I have adopted for many years and to which I drew the attention of the profession in my address to the therapeutic section of the British Medical Association at the meeting held here in 1892. In that address I gave a full and detailed description of the manner of the use of menthol in tuberculosis of the lung, with cases in illustration, and it will be well for those who take an interest—and who does not?—in this matter to refer to my paper for full description and direction. To some, perhaps, this may be impracticable, so that I may briefly say that the treatment consists of the daily intra-laryngeal injection of one drachm of a 12 per cent. solution of menthol in pure olive oil. The results obtained were most

encouraging and in some instances unexpected and remarkable. Persons with extensive consolidation, softening, and occasionally cavities at the apex of the lung, after a few weeks' treatment, lost the distressing urgency of cough, expectorated less, were able to sleep, improved in appetite, digestion, and assimilation, and put on weight. It is needless to add that the patients improved the most in whom the disorganising changes and impairment of general health were least pronounced. At the same time careful attention was given to common-sense measures for the improvement of the general health by fresh air, nutritious diet of an easily assimilable kind, rest, personal cleanliness, and general hygienic surroundings.

Medically, the drugs used were iron, strychnine, and quinine. Subsequent experience has confirmed me in the value of this method of treatment, and that when the lesion of the lung is not too extensive and the constitutional disturbance is moderate in degree, hope of recovery may fairly and reasonably be anticipated. Speaking of constitutional disturbance leads me to observe that one occasionally sees cases where one distressing symptom, dyspnœa, seems altogether out of proportion to the extent of the disorganisation of the lung. Where there are so many facts in medicine it is, perhaps, unwise—it is certainly often inexpedient—to theorise. But it has occurred to me whether in these cases the bacillar toxins inhibit the heat centres and so, from states of hyperpyrexia, set up the dyspnœa, or, on the other hand, may the dyspnœa be more directly caused by reflex through the pulmonary branches of the pneumogastric to an unstable respiratory centre? There is nothing in the method of treatment I now am advocating in conflict with the method described as "the open-air treatment." On the contrary, it plays a part—perhaps the leading part—not only in pulmonary phthisis but in all diseases of a malnutritive type. We possess specifics for few diseases and those of us with the largest clinical experience are the foremost to recognise and to emphasise this truth. It behoves us, therefore, to treat disease from a broad and enlightened standpoint. What do I mean by this? Simply that it should be our constant aim and endeavour to balance, so to speak, the discords of disease, to assist the return to the discharge of the natural and healthy functions of the body, to favour a healthy interchange between blood and tissue, to promote a normal metamorphosis—in short, to strive after the attainment of the normal standard, spoken of as health. It is in this direction that healing is accomplished and without it all other means are vain. In this conclusion is nothing new, nothing startling, only the recognition of golden truth revealed by time and observation and the happy possession of men who labour for the good of others.

I am, Sirs, yours faithfully,

JOSEPH O. BROOKHOUSE, M.D. St. And., M.R.C.P. Lond.,
Senior Physician to the General Hospital, Nottingham.

MOTOR BICYCLES.

To the Editors of THE LANCET.

SIRS,—I have followed with interest the letters in THE LANCET *re* motors and as I have during the last five months ridden nearly 2000 miles on my motor perhaps I may be allowed to add my impressions to those you have already published. My machine was built by a local maker (Messrs. Shaw and Co., Bishop Auckland) and fitted with a Minerva engine of 1½ horse-power. Being absolutely ignorant of the principles of mechanics generally I took occasion to visit the workshops during the construction of the bicycle and by the time it was ready for delivery I had acquired a fair theoretical acquaintance with my motor. It was delivered to me on a stormy, snowy day in February and so impatient was I to try it that after a trial run, which gave every satisfaction, I attempted to round a very slippery and rather sharp corner at a rate probably of 15 miles an hour. The machine "skidded" and I came down. That was my first and, so far, last fall. I have ridden the machine in all weathers, up and down steep hills, through towns, and along back lanes, and up to the present I have nothing but enthusiastic praise for my mount. My battery ran 823 miles without recharging and up to now has only been recharged twice. I am still using the same belt which was on the machine at the start; I have broken it about eight or nine times, but it can be repaired in a couple of minutes, and with these exceptions I have had absolutely no trouble whatever.

The machine complete with acetylene lamp, extra large tool-bag, and special horn, cost me £42 15*s.* nett. From the point of view of a medical officer of health to a large rural district who has to pay his own travelling expenses this is an exceptionally good investment. Two horses at least would be required to do the rounds I sometimes do in one day, but what I still more prefer is the saving of time. I can easily beat all the ordinary local trains in getting to points of my district and as an effective aid in obtaining the prompt isolation or removal of infectious cases to hospital it is simply invaluable. Within three hours of the receipt of a notification I have had cases *en route* to hospital from houses nine or 10 miles removed from my centre and from very outlying districts, and this without any approach to bustle or hurry. The machine doubtless requires a bit of attention, but everything that is worth having requires attention and well repays it. There is an exhilarating fascination in a good long run on a motor which is quite unlike any other form of pleasurable excitement I have ever experienced and the management of a pulsating, throbbing 1½ horse-power engine underneath one provides constant interest. The battery recharging has cost 1*s.* 6*d.* and the petrol about 20*s.* That has been practically my total outlay in getting over the distance mentioned above. I do not agree with Dr. W. T. Sheppard[1] that those high-priced machines made by large firms with names are worth the extra money. I raced a medical man the other day who was mounted on a very expensive and well-known motor bicycle (2 h.p.) and I literally romped away from him. I must in fairness add that he was five stones heavier in weight but against that he had an extra ½ horse-power and he has had quite as much experience of motor bicycling as I have.

From my own experience I have no hesitation in advising any one who contemplates buying a motor bicycle to do so. A more economical, rapid, and pleasant way of getting over the ground will be hard to find.

I am, Sirs, yours faithfully,

A. C. FARQUHARSON, B.Sc., M.D. Glasg., D.P.H. Cantab.,
Medical Officer of Health, Auckland Rural District.

July 31st, 1902.

GOLD MINERS IN THE TRANSVAAL.

To the Editors of THE LANCET.

SIRS,—I have read with interest the very timely article of Professor T. Oliver in THE LANCET of June 14th, p. 1677, and would ask a little of your space for some remarks which arise from thinking of the article. Undoubtedly a large number of cases of pulmonary disease have arisen in the Transvaal and in South Africa generally. I believe that Professor Oliver is right in regarding these cases as pulmonary fibrosis. I have seen and observed for weeks many such cases and all bear the clinical features described by Professor Oliver.

I do not desire at present to say anything further of the disease, but I do want to ask medical men in Britain, in the mining districts especially, to warn any miners who have the slightest tendency to pulmonary weakness against coming to South Africa to ply their trade. Following the cessation of the war and the consequent opening of the country, large numbers of men, especially those who have any weakness of the chest, will be for coming here, thinking they can get health and good work. This country and the two newly acquired States are the worst places such miners could seek if they have any pulmonary trouble. Hundreds came out prior to the war and from among these are the patients Professor Oliver, Dr. James Anderson, and others have seen on their return to England since the war began.

Broken down utterly in health after only a short time here, they are terrible examples of the effects of mining in South Africa on any but the strongest constitutions. Furthermore, men who get sick out here cannot get the nursing, care, and attention their cases require, and after battling with the disease they are forced to give in; they start for England and the sea-voyage, with its quickly varying climates, puts the final touch to them. It is an absolute fact that these cases of fibroid phthisis do very badly on the passage home. I have seen at least 20 of these cases leave Cape Town during the past two years, and their condition on landing in England was very much worse than when they embarked in spite of every care and attention during the voyage. I would therefore ask my professional brethren in Great

[1] THE LANCET, July 26th, 1902, p. 257.

Britain if they are consulted by miners to warn them against South Africa and to strongly advise them that the miner, to stand any chance here, must have perfect health, for not having this any who come to work in the mines come to certain death.

I am, Sirs, yours faithfully,

Cape Town, July 8th, 1902. THOMAS MARSHALL.

A NEW METHOD OF KEEPING IN APPOSITION THE EDGES OF SURGICAL INCISIONS AND WOUNDS IN ORDER TO PROMOTE UNION.

To the Editors of THE LANCET.

SIRS,—Absence prevented me replying to Mr. Haydn Brown's letter of July 12th before now, and surely an answer is needed. The inventor who resorts to planetary motion as an explanation of the mode of use of a suture is beyond me. Let me repeat on my unpretentious level, Who are the "surgeons of highest rank" who recommend this suture? If one such be named who can fairly assert that the suture possesses one novel point of utility over my "clumsy" invention of 18 years ago I shall send you any donation in my power towards any cause you name.

I am, Sirs, yours faithfully,

Finsbury Pavement, E.C., August 4th, 1902. J. MACMUNN.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Plague Epidemic.—"Kala-azar" in Assam.—The Work of the Lady Dufferin Hospitals for Women.—Inoculations for Cholera and Plague in Bengal.

THE small mortality from plague now occurring has greatly diminished public interest in the disease. In the whole of India there were only 1158 deaths during the week ending July 12th. The minimum mortality of the year—viz., 1050—seems to have been reached in the previous week. The figures in detail are: Bombay Presidency, 717; Punjab, 95; Mysore, 214; Bengal districts, 8; and Calcutta, 20. Bombay city now records fewer deaths than at any time since the commencement of the epidemic. On the other hand, there has been an increase in the Bombay districts and in the Mysore province—areas in which the earliest signs of a recrudescence may be expected to occur.

The disease known as "kala-azar" which has for many years been raging in certain districts of Assam and upon the pathology of which there is still so much doubt, has markedly declined in the two chief districts of the Brahmaputra valley most affected. There were 5856 deaths recorded for last year. It is interesting to note that while this disease declined the mortality from fever increased. The district of Nowgong has decreased in population by 86,147 during the past 10 years and it is estimated that 54,000 have succumbed to kala-azar. The disease has recently spread and effected a lodgment in Sylhet. The unsatisfactory part of all reports from Assam is that as registration is not compulsory except in municipal areas and in tea-gardens so little reliance can be placed on the returns, and this applies more to the Brahmaputra valley, perhaps, than to other districts. I learn from a recent report that inoculation for small-pox is still practised in outlying villages of the Sylhet district and that vaccination generally in Assam has not been very successful.

The administration of the Lady Dufferin Hospitals for Women has come in for some apparently undeserved criticism. While it is true that in some districts comparatively few purdah women avail themselves of the hospitals the general results of the fund are satisfactory. The cry that men have control and that the workers are not confined to women is grossly exaggerated. In some of the hospitals they have had to call in the assistance of the civil surgeons, but in the main the work is carried on solely by women. There are 40 lady doctors engaged, of whom 14 are English. Many of the others, though educated in India, have taken degrees in Europe. The fund is not rich enough to engage English ladies in larger numbers. The fund relieved the sufferings of one and a half million women last year and through Lady Curzon's influence about six lakhs were collected last year chiefly for the special object of training midwives. Many prejudices have still to be overcome. There are many purdah women who consider it a disgrace to enter a purdah hospital, and in Rajputana the women consider themselves defiled by touching the hands of an English lady.

From the report of the Sanitary Commissioner for Bengal I find that inoculation for cholera has lamentably fallen off. This does not appear to be due to any decline in its value but to the fact that even in the tea-gardens it is now entirely optional. It is almost entirely confined to emigrants. Inoculation for plague is equally under a ban. In Calcutta only about 40 inoculations were done during the whole year, while through personal influence it met with considerable success in Gaya. The Sanitary Commissioner rightly argues in favour of inoculation as against disinfection, but higher authorities are unable to accept his arguments.

Calcutta, July 17th.

THE SHONE SYSTEM FOR THE THOROUGH VENTILATION OF SEWERS AND HOUSE DRAINS.

(BY OUR SPECIAL SANITARY COMMISSIONERS.)

MUCH has been said, and justly said, in regard to the benefits which have resulted from the abolition of cesspools, of the pail system, and other such contrivances. A considerable reduction in the rate of mortality has been attributed to the introduction of general drainage schemes. Nevertheless, we have not reached perfection and we can only boast of having substituted a lesser for a greater evil. Experience has taught that if sewers are better than cesspools they have also their evils. Sewers were to save our dwellings from all the dangers and inconveniences caused by cesspools, portable pails, middens, &c. Hardly, however, had the system of water-carriage drainage been introduced on a large scale than our sanitary engineers, plumbers, and others had to exercise all their ingenuity so as to protect our homes from the sewers themselves. Consequently traps were devised, and these were at first clumsy contrivances which of late have been much improved. But now we have to admit that even the best of traps may of itself become a nuisance. The sewer has saved us from the cesspool, the trap protects us from the sewer, but what shall protect us from the trap? Theoretically, of course, the flow of air should be through the house-drains to the sewer, but in practice the reverse not infrequently occurs. If the water-seal in the traps prevents such currents entering the house the effluvia from this water must travel upwards. Of course, if the traps only contained clean water no harm could ensue, but these traps, especially the larger intercepter traps at the base of the house and separating the house from the public sewer, often contain soil and if they are not frequently and copiously flushed they must give off dangerous effluvia. At best these emanations are conducted by a ventilating pipe to the roof of the house. But this is not satisfactory. It is sometimes noticed that smoke will descend a chimney in which there is no fire. This smoke comes from another chimney. The difference between the indoor and outdoor temperature causes a down current and thus a chimney will bring into a room the atmosphere from the roof of the house, a fact that becomes visible when that atmosphere happens to be charged with smoke. Other portions of such atmosphere enter by the windows, especially those in the upper part of the house. The odour of a chimney on fire only escapes from the top of the chimney, yet it is detected by persons low down in the basement of the houses or in the street. It cannot be said, therefore, that the air from the sewers or drains will not enter the houses because it has been discharged above the roofs, and especially so when it happens, as is often the case, that one house is lower than its neighbour. The only absolutely satisfactory solution of the problem would be the adoption of a system by which the air in the house drains would have no means of escape except into the sewer.

Nevertheless, and even if this principle could be rigorously applied, it would only transfer the problem from the house

and its private drains to the public sewer. Now it is generally recognised that as yet no satisfactory method of sewer ventilation has been applied. It is easy enough to produce a current of air in a sewer, but these currents travel along the line of least resistance and it is precisely where there is the most resistance that ventilation is most needed. Too often we get the ventilation only where it is not so urgently needed. Numerous mechanical and other ingenious contrivances have been devised and tried. Heat produced by Bunsen burners placed under plaques of fire-clay not only attracts a strong current; it was also thought that the heat would purify the sewer air. But whether the motive power be that of a furnace or merely difference of temperature or the special construction of a shaft, a chimney, a cowl, or mechanical appliances such as a revolving fan, the result is always the same. The air is drawn into the sewer from the largest and nearest apertures and rushes out by the ventilator. The more distant parts of the sewer and the branch drains are scarcely affected. So long ago as Feb. 12th, 1887, we published a notice in THE LANCET of an ingenious invention patented by Mr. R. S. Ash who proposed to ventilate sewers by concussion. He argued that the current of a river may run rapidly, yet there are nooks and recesses in the embankment where a boat may be moored and where it will not be affected or borne away. On the other hand, if a concussion is produced by throwing a stone into the water, the waves or ripples resulting will travel up every creek or opening in the embankment. Mr. Ash therefore constructed a cylinder to be placed in manholes and in this gas accumulated and was from time to time automatically exploded. Such explosions would not only blow the air out of the manhole but produce a current of air rushing up from the sewer. A shock, it was argued, does not travel in a straight line but in ever-extending circles and therefore it would disturb and move the air in the branch sewers and drains as well as in the straight line of the main sewer. Both theory and apparatus were ingenious and some experiments were made in one of the manholes of the sewers of Monaco. But probably the invention did not work out as well in practice as in theory, for nothing more has been heard about it. Nevertheless, it was a typical illustration of the difficulty of sewer ventilation.

Practically it cannot be said that sewers are ventilated in a systematic and scientific manner. Street gullies or manholes act as ventilators and they serve both as inlets and outlets. Here and there a special shaft is built or a pipe is carried up a neighbouring wall. Nobody knows how much air enters or leaves the sewer, but there is evidence to show that typhoid fever has ensued when street gullies have been sealed and no other apertures for ventilation have been provided in their stead. On the other hand, both manholes and gullies sometimes give off bad odours, but it is better to endure such nuisance than to check the ventilation of the sewers. It is a well-established fact that sewers ought to be ventilated but the question as to what constitutes efficient ventilation and how this is to be obtained has never been clearly answered. Even when the air in a sewer is kept in constant motion and is so frequently renewed as to be fairly pure, this has only a very partial effect on the branch and domestic drains. Apprehensions are constantly expressed with regard to sewer air; but when a soil-pipe leaks or a trap is defective it is not only the sewer air that enters the house, it is also and primarily the air from the domestic drains and the branch connexion between the house and sewer. Here the ventilation is at its worst. It often happens that the intercepter is not ventilated so that the drain from the house to the sewer becomes a cul-de-sac. It discharges into the sewer as much foul air as there is water coming from the intercepter trap, whereas there should be a continuous through current. In the rare cases where the sewers are self-cleansing and sufficiently ventilated it does not follow that the branch drains are also self-cleansing and efficiently ventilated. The sewer is in the middle of the street and at some distance from the houses; the branch drains go up to, and generally pass under, the houses. It is, therefore, even more important to ventilate the branch drains than the sewers. The traps, especially the intercepter traps, require particular care, otherwise they will degenerate into small cesspools.

Having stated the problem in its broad and general lines the proposals recently made for its solution may now be considered. For the first time a scheme of sewer and drain ventilation which professes to be absolutely perfect has been devised. But in using the word perfection it is first essential to define what constitutes perfection. For this purpose it is necessary to estimate first how much fresh air should be introduced into the sewer per head per day and, secondly, to demonstrate not only that this amount of fresh air can be supplied but that it can be evenly distributed throughout the whole system and especially in the smaller branch drains. Messrs. Shone and Ault claim to have solved this arduous problem. First dealing with the volume of fresh air needed they base their calculation on the experiments made by Dr. Letheby who showed that one gallon of putrid sewage gave off 1·2 cubic inches of gases per hour. All sewage is not putrid, but taking matters at their worst there still remains the important fact that of the 1·2 cubic inches of gas evolved per gallon of putrid sewage about 90 per cent. is harmless. Dr. Letheby gives the proportions of the various gases evolved by a gallon of sewage in the course of nine weeks as follows: marsh gas, 73·833 per cent.; carbonic acid, 15·899; nitrogen, 10·187; and sulphuretted hydrogen, 0·081. Calculating the normal flow of sewage at 30 gallons per day per head it is proposed to supply per minute half a cubic foot of fresh air to every house drain or one tenth of a cubic foot of air per inhabitant. This would dilute the 1·2 cubic inches of sewage gas coming from each gallon of sewage 43,200 times, leaving slightly less than one-fourth of one part of such effluvia in 10,000 parts of the air in the sewer. By these and other calculations the conclusion arrived at is that one-half of a cubic foot of fresh air per house of five inhabitants will more than suffice to dilute the effluvia from foul, putrid sewage, though, as a rule, we have to deal with fresh and not putrid sewage.

Having thus ascertained the maximum amount of air needed to meet the worst conditions the next question is how to obtain this quantity in a constant and trustworthy manner. For this purpose it is no use whatsoever relying on atmospheric conditions, on ventilating shafts, and on cowls. These must ever be irregular in their action. Every change in the direction and velocity of the wind or of the temperature will modify the velocity of the currents induced. A trustworthy and constant result can only be obtained by the use of machinery. A ventilating fan can be regulated to supply exactly the volume of air required. Every revolution of the fan propels forward so many cubic feet of air. Given a sufficient number of fans revolving at the necessary velocity and the requisite amount of air needed is obtained independently of all atmospheric conditions. The fan which Messrs. Shone and Ault propose to employ is known as the "Sirocco" and is made by Messrs. Davidson and Co. of London and Belfast. Its diameter is only seven and a half inches and it can deliver 1500 cubic feet of air per minute, the suction on the one side of the fan being estimated at one inch of water gauge and the pressure on the other, or outlet side, also at one inch, making two inches in all. Such a fan would suffice for a population of 15,000 and if worked by electricity at 3*d.* per Board of Trade unit would cost £88 7*s.* 6*d.* per annum, or £5 17*s.* 10*d.* per 1000 of the population, or 1·41*d.* per head per annum. Of course, water, steam, compressed air, and any other motive power can be employed.

It is something to have established the amount of air required and to have shown that this can be obtained at a very small cost by mechanical means. But there remains the far more difficult and it must also be said the far more expensive side of the problem. Indeed, as already stated, there has never been any great difficulty in setting up a strong current of air in a sewer; the difficulty is to direct and to diffuse that current and, above all, to make it penetrate into the branch sewers and house drains. For the scientific ventilation of assembly rooms and other buildings doors and windows must be closed. Air must enter only by specially contrived and measured inlets. So, also, for the sewers, every manhole, every street gully, and all the old ventilating pipes and shafts must be closed. The sewer and its branches must be as air-tight as possible. No air must enter except where it is controlled and measured. Otherwise how would it be possible to know what is being done and to do what is needed? With sewers of ascertained capacity, with a known population discharging a given quantity of sewage per day, it is a matter of calculation to estimate the amount of cubic feet of air that will be required per day or per hour. Where, then, should this air be admitted? Evidently it would be very advantageous to admit the fresh air

just at those points which in the ordinary course it is least likely to reach. These, as already explained, are the branch sewers and domestic drains. Thus it is proposed that the domestic soil-pipe shall be the air-inlet. But in the ordinary course such inlets would occasionally become outlets and already to prevent this mica flap valves are used. They are, however, delicate and always get out of order. Therefore, a protecting cover is placed over the aperture and across there is a non-corrodible wire-gauze screen. Thus leaves, paper, large particles of dust, and other objectionable matter cannot enter and interfere with the working of the flap valves within. The pivots of the valves are made of delta metal or phosphor bronze, the seatings of brass or aluminium alloy, and the valves themselves of aluminium. This gives rigidity and strength with a minimum of weight. Any reversion of the current of air would close these valves and thus prevent the inlet becoming an outlet. This, however, is only a mechanical improvement on contrivances for air inlets that have existed and been in use for many years. The converting of every soil-pipe into an inlet ventilator armed with flap valves to prevent their becoming outlets would not of itself solve the difficulty. If every other aperture was closed, and if by the revolutions of the mechanical fan the necessary volume of air was drawn into the sewer, still the greater part of the sewer and of the branch drains would not be efficiently ventilated. It would simply mean that far more air would be drawn in through the inlets nearest to the fan than was required, while further off there would be little or no ventilation. The object, on the contrary, is that every soil-pipe and every part of the sewers shall be washed by the necessary quantity of air, however far it may be from the fan. Therefore, the amount of air that enters the openings nearest to the fan must be checked so that they shall not admit more air than those that are a long way off. For this a vulcanite screw plug is fixed into the inlet orifice. This inlet is of the same size throughout and all the plugs fit into all the inlets. These plugs can be changed with the same facility as removal of a screw-stopper from a bottle. In the centre of the plug a hole is pierced, and it is through this hole that the air passes. Thus the volume of air that enters can be altered according to the diameter of the perforation made in the plug used. Those that are placed nearest to the fan have apertures of only one-eighth of an inch in diameter, but there the air travels with considerable velocity. The openings are made larger and larger the greater the distance from the fan. By means of the water gauge it is easy to calculate the vacuum produced within the sewer by the air-extracting action of the fan and then the area of aperture can be adjusted at each point according to the vacuum available. The fan connected with a group of drains and sewers has to be placed in such a position that the friction due to the passage of the air shall be equally distributed throughout. So that the amount of vacuum necessary should not be so great as to force the traps connected with the drains the distance effected by one fan should not be very extensive. The vacuum should not exceed one inch of water head as shown by the water-gauge. Calculations have been made and tables drawn up indicating at a glance what must be the diameter of the aperture in the plug according to the vacuum in the sewer and the distance of the inlet from the fan. There is no difficulty in the application of these rules and we should then have the same volume of air per head of the population travelling from every soil-pipe down into the sewer and away to the fan. Though it is estimated that one-tenth of a cubic foot of fresh air per head per minute would suffice, there would be no difficulty whatsoever in largely increasing this supply. The great point is that the supply should be accurately measured, that the amount should be known, that it should be evenly distributed throughout the whole system, that it should enter by the house-drain, and travel in the same direction as the sewage. Messrs. Shone and Ault have an installation at No. 20, Victoria-street, London, S.W., where they show how, by the above means, these ends are attained.

In all such schemes, however, it is most essential to provide for accidents or for the abnormal conditions that occasionally arise. For instance, the sewer may be accidentally blocked. All the drains and sewers between the fan and the blockage would then be subjected to an increased vacuum unless the rapidity of the fan's revolutions was reduced in exact proportion and at the very moment the accident occurred. If not the vacuum may be so great that it will force the house-traps. To prevent this a second flap valve is placed near to the ordinary and measured inlet valves. This is a vacuum relief valve and is so weighted that it will not open unless the fixed maximum of vacuum is exceeded. Then the relief valves open and let in more air till the vacuum is reduced to its proper proportion. On the other side of the blockage the ventilation could be partially or wholly stopped. Instead of an increased vacuum the gases arising would produce a pressure from the sewer and drains outwards. If this pressure is very strong it could force the traps and discharge the sewer air inside the houses. Therefore a weighted outlet flap valve is also provided which would yield and open to a pressure less than that required to force the traps and let the compressed air from the sewer out into the open instead of its gaining admission inside the houses. Again, and without there being any accident causing a blockage in the sewers, the ventilation of the house drains may be momentarily stopped where heavy rainfalls are admitted into small sewers. The rise of sewage and rain-water in the sewers would then submerge the house drains and the air within them might be so compressed by the heading-up of the water as to force the traps. But here again the outlet relief valve would prevent this occurring. The street gullies would be treated in the same manner as the house drains: they would be provided with similar inlet ventilators and safety relief valves in case of accidents, but they would be sealed so as to prevent the sewer air escaping into the streets when the system worked in the normal manner. Thus, and excepting in the case of the sewers being choked up with water during a storm or blocked by an accident, there would be no escape of sewer air into the streets through manholes or gullies or up-ventilating pipes on to the roofs of the houses and down chimneys and into open bedroom windows. All the sewer-air would go to the fans. These would be very few in number as compared to the existing apertures through which sewer air is allowed to escape. Consequently it would involve but a comparatively small cost to provide at these fan stations a lofty shaft so that the sewer air might be discharged at a safe distance from habitations and rendered harmless if necessary. Besides the sewers would be so well ventilated and the effluvia from the sewage so largely diluted by the fresh air drawn into the sewers that it would not be likely to cause a nuisance when liberated into the open atmosphere.

To recapitulate and to sum up this new system, it is proposed to draw into the sewers by mechanical means at least one-tenth of a cubic foot of fresh air per minute and per inhabitant. Every street gully and domestic soil-pipe is to be provided with an inlet apparatus. The aperture of these inlets will be so measured as to facilitate or to restrict the inrush of air in proportion to the vacuum or force of suction within the sewer and thus the right amount of air will enter at every point. Further, there will be two sorts of safety-valves—one to let air out of the sewer should pressure from within exceed the water gauge of one inch and therefore endanger the seal of the house traps, and the other to let more air down into the sewer should the vacuum or suction within the sewer likewise endanger the house traps by exceeding one inch as measured by the water gauge. The three flap valves employed for these three different purposes are admirably made and may be described as scientific instruments; yet though so delicate in action they are strong, durable, and not expensive. Altogether, the system seems to us to promise a satisfactory solution of the entire problem by applying a method the efficacy of which can be scientifically tested at every point of the sewers thus treated in a manner never before possible

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Small-pox.

DURING the week ending August 2nd there have been six cases of small-pox reported in Swansea, two in Merthyr Tydvil, one in Aberdare three in Neath, and one in the Rhondda valley. The Merthyr patients are two children who had been travelling from town to town with a woman who was subsequently discovered at Aberdare and found to be in the second week of the disease. Each of the districts affected is provided with isolation accommodation.

Pauperism in Wales.

A return has recently been issued by Mr. F. T. Bircham, the Poor-law inspector for Wales, comparing the amount and the cost of pauperism in the various unions of the principality. On March 31st, 1902, the percentage of pauperism to population in England and Wales was 2·1, in the whole of Wales 2·7, in North Wales 3·1 and in South Wales 2·6. In the agricultural districts of Bridgend and Cowbridge the percentage was only 1·4, in the mining districts of Pontypridd 1·8, and of Merthyr 2·2, while in the urban districts of Cardiff it was 2·4, and of Swansea 3·2. The largest amount of pauperism was found in North Wales, where in the Holyhead union the percentage was 3·8 and in the Anglesey union it was 4·1. The average weekly cost of each pauper during the year ending March 31st, 1902, was 2*s.* in the Bridgend and Cowbridge unions, 2*s.* 3*d.* in Pontypridd, 2*s.* 9*d.* in Merthyr, 3*s.* in Cardiff, and 2*s.* 4*d.* in Swansea. It will be noticed that except in the case of Swansea the relative positions of the unions is the same whether the percentage of pauperism to population or the average weekly cost is considered.

Medical Appointments at the Swansea Hospital.

The junior medical appointments in Swansea do not attract many applicants. It is not so very long since there was some difficulty in obtaining a resident medical officer for the workhouse and for the position of resident medical officer at the General Hospital about to become vacant there were only two applications received. The hospital contains 130 beds and the salary of the medical officer is £75 per annum. The inadequacy of this remuneration may account for the paucity of candidates for the post.

Compulsory Removal of Small-pox Patients.

Allusion has already been made[1] to the conviction of a man at Swansea who had refused to obey an order of the Swansea justices for the removal of his child to the small-pox hospital, and on July 29th the defendant appealed to the Court of King's Bench to set aside the decision of the justices. His contention was that the child in question was suffering from chicken-pox, although he admitted that three other cases of small-pox, one of which terminated fatally, occurred subsequently in the same house, and also that insufficient evidence was tendered at the police-court proceedings. Mr. Justice Bigham and Mr. Justice Darling upheld the order of the magistrates and the former said that the order for the removal of the child having been properly made the defendant had no right to resist its execution.

British Dental Association.

In his address to the members of the Western Branch of the British Dental Association at the annual meeting held at Ross-on-Wye on July 25th the president, Mr. S. Greatrix Yates, dwelt with some emphasis upon the ever-increasing prevalence of dental caries and urged the absolute necessity for providing conservative dental treatment in all State institutions, especially where children are under compulsory restraint in reformatories and in asylums. He also suggested that prisoners serving beyond a certain sentence should be able to claim skilled dental services.

Brentry Home for Inebriates.

In order to place this institution in a sound financial position the managers have appealed to the 23 authorities which originally contributed to its support for further assistance, guaranteeing to those who respond a permanent interest in the home. The Somerset county council voted £250 only on the casting vote of the chairman, and on July 29th the Bristol town council, upon being asked to vote £500, decided to defer the matter for three months with a view to further inquiry as to the results following the establishment of the home. The Bath and Bristol corporations are the only authorities who have not yet come to any decision as to the further support of the institution.

Phthisical Patients at the Bristol Workhouse.

The question of providing suitable accommodation for phthisical patients has been discussed by the Bristol board of guardians upon several occasions during the past 12 months and several proposals have been brought forward. The adaptation of a large house surrounded by extensive grounds at Cleveden met with some favour but the scheme was finally abandoned and at the December meeting of the board it was decided to set aside a ward at the Stapleton workhouse for 30 male patients and to send to special institutions suitable cases, but it was felt by many members that the matter should be dealt with in a much broader manner, one guardian suggesting the purchase of land on the Mendips and the erection of properly planned buildings. On August 1st the board finally decided to provide a one-storey building to accommodate 40 patients on land at Fishponds in the city. The building, which is to be constructed of wood and iron, will include four wards, each 60 feet by 15 feet, three being provided with open balcony fronts, a dining room, kitchen, nurses' rooms, bath rooms, and offices. The cost is estimated at £1305.

August 4th.

[1] THE LANCET, May 24th (p. 1501) and June 21st (p. 1801), 1902.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Epidemic Measles in Dublin.

THE last meeting of the council of the Dublin Sanitary Association took place on July 26th, when the returns of the Registrar-General for the week ending July 19th were considered. It appeared that 196 cases of measles were notified during that week in the city, while the admissions to hospital numbered only 28, the inference being that the sufferers from the epidemic had been treated chiefly in the houses of the sick. A letter was received from the public health committee in reference to this matter stating that it approved of a former resolution of the association suggesting the advisability of a special staff of nurses to visit the children of the poor "for whom hospital care is not available" and that it was being acted upon.

A Vaccination Case.

At the Belfast police-courts on August 4th the Belfast board of guardians summoned a man who was a Poor-law guardian (a representative of the Trades Council) for failing to comply with the vaccination laws in respect of his two children. The charge having been proven the defendant said that he did not intend to obey the law and he was fined £1 and 12*s.* 6*d.* costs, the chairman remarking that the magistrates were of opinion that the defendant was abusing his position as a Poor-law guardian in regard to this matter. Objectors to the vaccination of their children are very few in Ireland, the "conscientious" individual towards whom Mr Balfour in his English Bill showed such a weak yielding not being much in evidence. As one of the Belfast local papers fairly puts it, the person fined in the above case "is a member of the board of guardians who are the authority for putting the vaccination laws into operation, and he therefore cannot be treated as an ordinary offender against these laws." Ireland, fortunately, is not subject to the "conscientious objection" clause.

Formation of a Branch of the Irish Medical Association for the County of Cork.

A meeting of the members of the Irish Medical Association residing in the city and county of Cork was held for the purpose of forming a branch for the county of Cork. The following officers were elected:—President: Dr. Jeremiah Cotter, Cork. Vice-President: Mr. P. O'Donoghue, Macroom. Honorary treasurer: Mr. W. Bennett, Clonakilty. Honorary secretary: Dr. D. J. Flynn, Cork. It was decided to issue a circular setting forth the benefits conferred on Irish Poor-law medical officers by joining the Association.

August 5th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Schools of Colonial Medicine.

LAST year it was suggested that a chair of Colonial Medicine should be created in the Paris Faculty of Medicine and considerable sums were collected for the purpose by subscriptions, but the scheme had to be abandoned as in the Paris hospitals there was little prospect of the admission of

patients suffering from yellow fever or other diseases peculiar to the colonies. A request by the city of Bordeaux that such a chair should be created in that city has been granted and Bordeaux now possesses a civilian school of colonial medicine. The city of Marseilles under the influence of a similar spirit has now prevailed on the Minister of War to make it the seat of the military school of colonial medicine and has placed at his disposal the magnificent buildings of the Pharo situated on a rising ground at the entrance of the harbour. It would hardly be possible to find a place better suited for the purpose. A large theatre suitable for lectures is already in existence at the Pharo. Military medical officers about to proceed to the colonies will find in the hospitals of Marseilles patients who have returned home suffering from the effects of every form of disease incidental to the colonies. The botanic gardens of the Parc Borély are very rich in colonial plants. Marseilles also has a very fine colonial museum superintended by M. Heckal and Dr. Queyrel. The authorities have directed that the fitting-up of the new school of medicine shall be proceeded with energetically, so that lectures may begin in October. The money which was subscribed for the creation of a chair of colonial medicine in Paris and which has been hitherto unused has just been made over to the Hôpital des Dames Françaises at Auteuil for the Institute of Colonial Medicine which has now been established there. At a recent meeting of the council of the faculty Dr. Brouardel, professor and honorary dean in the Faculty of Medicine, was appointed director of this institute. Professor Wurtz will deliver lectures on colonial hygiene and epidemiology.

The Microbes of Dysentery.

At the meeting of the Academy of Medicine held on July 15th M. Chantemesse described the nature and action of the two principal factors in the production of dysentery. Dysentery either epidemic or sporadic wherever it may break out is due, he said, to microbes, of which there are two completely distinct kinds—one an amœba and the other a bacillus—growing in the intestine. Amœba dysentery is sporadic rather than epidemic and is especially prone to attack male adults. Sometimes it carries off the patient in a few weeks, but it usually runs a chronic course with little pyrexia. The patients have frequent evacuations containing mucus, blood, pus, and amœbæ. The disease lasts for months and years with periods of constipation and of diarrhœa. It may be recovered from or may terminate by exhaustion from intestinal perforation, and especially in abscess of the liver. This variety of dysentery shows only a slight tendency to epidemicity; usually it is of a chronic character, and the blood of the patients does not cause agglutination of the bacillus of dysentery. Bacterial dysentery, on the other hand, is epidemic and infectious in a high degree. It may kill rapidly by its specific virus, but it very often becomes chronic and gives rise to ulcerations and considerable thickenings of the walls of the large intestine. In addition to being epidemic it may also occur in isolated cases and may show itself as a complication in various chronic diseases. It is caused by a specific bacillus multiplying in the intestinal cavity, in the walls of the large intestine, in the mesenteric ganglia, in the spleen, and often in other parenchymatous organs; the blood of patients who have been suffering from dysentery for a certain number of days causes agglutination of this bacillus. The importance of this question is evident from the fact that, taking one country with another, the mortality due to this disease is greater than that due to plague, yellow fever, and cholera.

Successful Suture of a Bullet Wound of the Heart.

Cures by suture of wounds of the heart are becoming more and more common. Hitherto, however, all the cases reported have been of wounds caused by knife or sword, but M. Launay, a young surgeon attached to the Paris hospitals, has just related to the Academy of Medicine the details of a case in which the heart was pierced through by a revolver bullet. During the operation the bullet was found lying in the pericardial cavity. There were two wounds of the ventricle, one on the anterior surface and the other on the posterior surface; these were sutured with catgut. The pericardium was then sutured in its turn and the flap of the thoracic wall was fastened in place. No drainage was employed and the patient recovered without a single bad symptom.

August 4th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Death of Professor Gerhardt.

DR. CARL GERHARDT, professor of clinical medicine in Berlin University and chief of the second medical clinic at the Charité Hospital, died on July 20th, at his country house at Gamburg in Baden. Professor Gerhardt was born in 1833 at Speyer in the Palatinate, and received his education at Würzburg University, graduating there as M.D. in 1856. He then became assistant successively to Professor Griesinger of Tübingen and Professor Bamberger of Würzburg. In 1860 he was recognised as *privat-docent* at Würzburg, and in the following year he was appointed ordinary professor of clinical medicine at Jena. In 1892 he returned to Würzburg to fill the chair of his former teacher, Professor Bamberger, and in 1885 he was appointed ordinary professor at Berlin University in succession to the late Professor Theodor von Frerichs. Professor Gerhardt, though not so universal a genius as the late Professor Kussmaul, has done good work in several branches of clinical medicine. He was among the first to make use of the laryngoscope and he published many articles on laryngeal diseases which, together with diseases of the circulatory and respiratory organs, were a favourite study with him. He also gave much attention to the diseases of children. Not only did he lecture on this subject when professor at the comparatively small university of Jena, but in collaboration with other authors he edited a great encyclopædia on children's diseases and published a separate treatise of his own as a text-book. He also brought out works on the treatment of infectious diseases and on the history of medicine and in recent years was an active advocate of the formation of sanatoriums for phthisical patients. Professor Gerhardt was an excellent clinical teacher; his delivery was clear and he possessed the faculty of making himself easily understood by junior students. His private practice was very large. Last year he suffered from pneumonia, followed by permanent impairment of his health, so that a few months ago he retired to his house at Gamburg where he died.

New Lunatic Asylum.

There are already in Berlin two municipal asylums as well as numerous private institutions of a like kind, but the authorities are making arrangements to provide two additional municipal asylums, one of which will be opened before the end of the present year. When this intention was first announced, the authorities received a petition, evidently the work of an ultra-fervid abstainer, asserting that the increase in mental disease was due to drunkenness and suggesting that the cost of the new institutions should be made chargeable solely on brewers, tavern-keepers, and others engaged in the manufacture and sale of alcoholic liquor. Needless to add, the petition was not even considered.

Prolapse of the Rectum.

Dr. Karewski, writing in the *Centralblatt für Chirurgie*, recommends injections of paraffin in cases of prolapse of the rectum, a method of treatment which, he says, has proved useful after other expedients had failed. The details of the operation were as follows. Purgatives were given two days previously, but on the evening immediately preceding it from one to two grammes of bismuth were administered. The prolapsed part was then gradually replaced and retained in position by a finger introduced into the rectum. The nozzle of a syringe was then inserted between the skin and mucous membrane and injections of paraffin were given, forming a circle round the anus; the paraffin on solidifying acted as a support to the bowel and prolapse did not recur. Bismuth continued to be given during the next 24 hours in order to prevent premature action of the bowels. With eight children treated in this way there was only one failure; the other patients have remained well for periods varying from two to six months. A repetition of the injections was required in two cases and two repetitions were required in one case; there were no undesirable complications. The operation has not yet been performed on adults. A special pattern of syringe has been made for the giving of the injections.

German Practitioners' Association.

The German Practitioners' Association lately held a meeting (*Deutscher Aerztetag*) at Königsberg in East Prussia. In addition to debates on alterations in the association's

by-laws rendered necessary in consequence of recent legislation the meeting discussed some questions relating to sick clubs and to unqualified practice. A resolution was adopted to the effect that legislation was required making the "free-choice" system[1] compulsory for sick clubs. The association also expressed the opinion (1) that members suffering from venereal diseases should not be excluded from medical aid under the rules of the clubs; and (2) that persons having an annual income of more than 2000 marks (£100) should not be admitted to an official sick club. With respect to unqualified practice, the association adopted resolutions to the effect that puffing advertisements by such practitioners ought to be prohibited and that instructions should be given to the licensed pharmaceutical chemists (*apotheker*) not to accept their prescriptions. Königsberg is in a somewhat outlying position geographically but the meeting was nevertheless very well attended. There was, however, a general complaint that the association has lost a good deal of its former importance and that the entertainments provided by the hospitality of the residents absorbed an appreciable amount of energy which ought to have been reserved for the proper business of the meeting.

August 4th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Cholera Shadows.

THE Italian Home Office, in view of the appearance of cholera in Egypt, although the Egyptian seaports are still untouched by the malady, has taken the following steps in the interest of Italian hygiene. 1. It has established through the Italian consul in Alexandria and the Italian Legation at Cairo a daily service of information by telegraph as to the number of deaths from cholera and of cases of the disease in all the infected localities, as to the prophylactic measures, local and general, adopted, and as to the movement of Italian subjects fleeing the country. 2. It imposes on ships hailing from Egyptian, and touching at Italian, seaports a special surveillance so as to ensure the practice of those precautionary measures established by the International Council of Quarantine for preventing the transmission of cholera to Europe. 3. The Italian consuls at Alexandria and Port Said have instructions to telegraph to the Home Office information as to which of the said ships on the point of departure present hygienic conditions of a suspicious character; whether there are physicians on board, or the means of disinfection; whether the drinking-water is deficient or of bad quality; and whether there is excessive crowding of third-class passengers. 4. An order has further been issued enforcing, in terms of the "Sanità Marittima," the medical visit and inspection of ships from Egyptian ports, such visit and inspection to be made exclusively at Genoa, Leghorn, Naples, Brindisi, and Venice for the mainland, and at Palermo, Messina, and Catania for Sicily. By the same order, after the said ships have been allowed *libera pratica* (free course), all who disembark from them, whether passengers or crew, will have through the local prefect to be announced by telegraph to the syndics of the communes they are bound for, so that they may be subjected to sanitary surveillance for the period required to complete the five full days calculated from the date of their leaving the last Egyptian port. Such surveillance, however, will in no case take the form of isolation and sequestration, but simply that of being subjected to the daily medical visit, followed by a certificate, when the individual leaves before the five days have expired, as to his hygienic condition, so that the syndic of the commune he is bound for may continue the surveillance up to the expiry of the said five days. Finally, all prefects in maritime provinces are instructed to enforce the rigorous application of the prescribed sanitary regulations, particularly as to the medical visits and disinfections.

The Suicidal Fever.

From July 14th to 26th—a statistical period of 14 days—no fewer than 23 suicides, effective or abortive, have been announced on the part of individuals residing in, or hailing from, Rome. Of these victims of real or intended self-murder the great majority are females—generally girls of the poorer class who have been abandoned by husband or lover after marriage or seduction. The mode of death they affect is generally poison—a handful of lucifers dissolved in water or pastilles of corrosive sublimate. Out of 15 suicides four only were above 25 years of age, six above 20, three above 15, and two above 14. It is almost exclusively the male sex in Italy who destroy themselves with the knife, razor, or revolver. That suicide is contagious has often been maintained and proved in THE LANCET and the question arises how far the newspapers are justified in recording such cases, or at least in publishing the full circumstances in which the fatal purpose has been provoked or the particular mode in which it has been effected. In the British press the intimation of a suicide is (in most instances) overshadowed by the preponderating interest of current affairs, imperial and domestic, and attracts but small attention. In Italy, however, where such interests are confined to a few, suicide (like homicide or highway robbery or theft on a grand scale) forms the chief attraction of the newspaper, which naturally seeks to gratify the morbid appetite which craves for such pabulum. When Italy develops a healthier civic life, with its concomitants of greater prosperity and higher scale of living—above all when she is better instructed and better educated—"miseria" will have decreased, sensational literature will find a smaller public, and, naturally enough, suicide will have fewer provocatives, whether in ill-regulated emotion or by the contagion of example.

Honours to Dr. Baccelli.

On July 30th, at the Ministry of Agriculture, of which Dr. Baccelli holds the portfolio, with a seat in the Cabinet, Prince Felix Borghese headed a deputation to present him with a sumptuous gift, taking the form of a shield, artistically designed and ornamented, in token of the gratitude of the agricultural interest for his Excellency's discovery of the cure for aphtha epziootica and the admirable results that have attended its practice. Dr. Baccelli thanked the donors in a short speech of characteristic geniality and skill.

August 3rd.

Medical News.

UNIVERSITY OF EDINBURGH.—The following degrees and certificate have been conferred :—

Degree of Doctor of Medicine.—John William Anderson, New Zealand, M.B., C.M., 1894 (*in absentiâ*); Edmund Balmer Anderton, England, M.B., C.M., 1898; *Ernest Francis Bashford, England, M.B., Ch.B., 1899; *Emil Paul Baumann, South Africa, M.B., Ch.B., 1898; †James Alexander Terras Bell, New Zealand, M.B., C.M., 1895 (*in absentiâ*); Philip Grierson Borrowman, Scotland, M.B., C.M., 1882; Andrew Cassels Brown, England, M.B., Ch.B., 1898; Robert Cameron, Scotland, M.B., Ch.B., 1898; †Selwyn Gurney Champion, England, M.B., C.M., 1897; †Jane Alice Craig, Scotland, M.B., Ch.B., 1898; James Davidson, M.A., Scotland, M.B., C.M., 1891; Daniel Davies-Jones, Wales, M.B., C.M., 1884; Thomas Evans, Wales, M.B., C.M., 1894; ‡Edward Ewart, Scotland, M.B., Ch.B. (with second-class honours), 1900; David Ferrier, Scotland, M.B., Ch.B., 1899; ‡John Bell Fisher, England, M.B., C.M., 1880; Andrew Mearns Fraser, England, M.B., C.M., 1895; †Frederick Gardiner, B.Sc., Scotland, M.B., C.M., 1895; ‡Thomas Horatio Gibson, England, M.B., C.M., 1886; ‡John Gilchrist, Scotland, M.B., C.M., 1885; ‡Hamilton Andrew Hugh Gilmer, New Zealand, M.B., Ch.B. 1899; Frank John Hathaway, England, M.B., Ch.B., 1899; Edward Bateman Hector, Scotland, M.B., C.M., 1883; ‡William Edward Herbert, New Zealand, M.B., Ch.B., 1899; ‡William Hugh Hill, Scotland, M.B., C.M., 1886; Henry Overton Hobson, England, M.B., C.M., 1899; ‡Cyril Arthur Bennett Horsford, West Indies, M.B., Ch.B., 1898; Alfred Hugh James, Wales, M.B., C.M., 1898; ‡James George Silver Jamieson, M.A., Scotland, M.B., Ch.B., 1900; †John Boyd Jamieson, Scotland, M.B., C.M., 1897; Thomas John Jehu, M.A., B.Sc., Wales, M.B., C.M., 1893; *David Barty King, M.A., Scotland, M.B., Ch.B., 1899; ‡Charles Francis Lassalle, West Indies, M.B., C.M., 1894; ‡James Lee, B.A., Ireland, M.B., C.M., 1896; * Robert M'William Leith, Cape Colony, M.B., C.M., 1895 (*in absentiâ*); ‡ Henry Cairns Lloyd, Australia, M.B., C.M., 1893; †James Luckhoff, Cape Colony, M.B., Ch.B., 1899; †Colin MacVicar, M.A., Scotland, M.B., C.M., 1894; James Morris Menzies, Scotland, M.B., C.M., 1894; Hugh Crichton Miller, M.A., M.D. Paris, Scotland, M.B., Ch.B., 1900; *John Alexander Milroy, M.A., Scotland, M.B., C.M., 1896; †Hugh Brooming Taylor Morgan, Wales, M.B., C.M., 1891; †John Muir, Scotland, M.B., C.M., 1896; †Donald George Macleod Munro, Scotland, M.B., C.M., 1892; Patrick Murison, Scotland, M.B.,

[1] THE LANCET, Feb. 2nd (p. 317) and July 13th (p. 127), 1895; July 18th (p. 218), 1896; May 20th (p. 1399) and June 17th (p. 1699), 1899; and April 27th (p. 1242) and May 18th (p. 1435), 1901.

C.M., 1888; ‡William Ramsay Nasmyth, Scotland, M.B., C.M., 1885; †David Orr, Scotland, M.B., C.M., 1894 (*in absentiâ*); †William Moncreiff Paul, M.A., Scotland, M.B., Ch.B., 1899; ‡Arthur de St Leu Frederick Perigal, England, M.B., Ch.B., 1898; Cyril Hamilton Phillips, Barbados, M.B., C.M., 1896; Hugh Richard Phillips, Wales, M.B., Ch.B., 1898; †Charles Porter, Scotland, M.B., C.M., 1896; ‡Arthur Preston, England, M.B., Ch.B., 1899; Edwart de Carle Prout, England, M.B., C.M., 1894; *Robert Pugh, Wales, M.B., Ch.B., 1898; Albert Frederic Rosa, Scotland, M.B., C.M., 1891; Robert William Innes Smith, Scotland, M.B., C.M., 1894; Stephen Southall, England, M.B., Ch.B., 1899; ‡ Thomas Pollard Stewart, M.A., Scotland, M.B., C.M., 1899; ‡David Waters Sutherland, Australia, M.B., C.M., 1893 (*in absentiâ*); ‡William Edward Tellet, Scotland, M.B., Ch.B., 1898; William George Thompson, Ireland, M.B., Ch.B., 1899; James Robert Hall Walker, Scotland, M.B., C.M., 1897; Godfrey Warnes, England, M.B., C.M., 1893; ‡Walter Frederick Rodolph de Watteville, Switzerland, M.B., C.M., 1885; Harry Weighton, Scotland, M.B., C.M., 1893; and John Rutter Williamson, England, M.B., Ch.B., 1898 (*in absentiâ*).

* Awarded gold medals for the thesis.
† Highly commended for thesis.
‡ Commended for thesis.

Degrees of Bachelor of Medicine and Master in Surgery.—Martha Georgina Isabella Cadell, Scotland; Leslie Alexander Drake, England; Robert James Irving, B.Sc., England; James Henry Paterson, Scotland; and Alexander Robertson, Scotland.

Degrees of Bachelor of Medicine and Bachelor of Surgery.—May Agnew, Ireland; Robert George Archibald, India; James Arthur, England; Alexander Kidd Baxter, Scotland; Nina Henrietta Beath, Scotland; Constance Agnes Bennet, Scotland; Breadalbane Blacklock, Scotland; William Blackwood, Scotland; Gurth Swinnerton Blandy, England; §Christian Henry Bösenberg, South Africa; Johannes Roos Bosman, South Africa; Edward Arthur Braine, M.A., England; George Bell Brand, Scotland; John Grant Briggs, England; Robert Dods Brown, Scotland; Herbert Henry Bullmore, Australia; Duncan Macnab Callender, M.A., Scotland; Ewen Cameron, England; §Charles Macfie Campbell, M.A., B.Sc., Scotland; George Savery Carey, England; Donald Gordon Carmichael, Scotland; James Charles Gordon Carmichael, Scotland; ‖Thomas Francis Cavanagh, Ireland; Austin Mack Caverhill, Scotland; Archibald Francis Reignier Conder, Scotland; James Harris Connolly, Ireland; §Paula Theodora Copeland, Scotland; Alexander Peter Coskey, South Africa; Harry Lovett Cumming, Scotland; Maurice Davies, Wales; Frank Inglis Dawson, Scotland; Margaret Scott Dickson, Scotland; ‖Jan Dommisse, Cape Colony; Cecil Bolton Drew, South Africa; Henry John Dunbar, Scotland; James Ferguson Duncan, New Zealand; John Duncan, Scotland; §Sören Anton Eilerbek, Denmark; James Sands Elliott, New Zealand; Samuel Charles Ellison, Ireland; John Fairbairn, British Guiana; Alfred Nolan Fell, New Zealand; Duncan Campbell Lloyd Fitzwilliams, Wales; Andrew Binny Flett, Scotland; Agnes Josephine Gardner, Scotland; §Stephen Gilford, England; Archibald Gillespie, Scotland; Edward Carwardine Gimson, England; ‖Dwarka Prasad Goil, India; Thomas Gowans, England; Mabel Dalton Guiland, Scotland; John Frederic Haegert, India; §Thomas Bogie Hamilton, Scotland; Dirk Jacob Hamman, South Africa; Alexander William Montgomery Harvey, Scotland; Alexander Walker Hauman, Cape Colony; Mathew Holmes, Scotland; Cecil Hobart Houghton, Ireland; William Hume, Australia; John Hunter, Scotland; Richard Charles Irvine, Tasmania; Miles Johnston, Uruguay; Harold Kerr, Scotland; Robert Donald Kidd, Natal; James Kirkwood, Scotland; Hubert Astley Knight, England; Wilfred Edwyne Knight, Ireland; Hermann Kramer, South Africa; William Landsborough, Scotland; George Ivanhoe Lecesne, Jamaica; §Norah Lenwood, England; ‖William Lilico, Ireland; Andrew Walker Buist Loudon, Scotland; ‖Robert Cranston Low, Scotland; John Glenn M'Caughey, Ireland; William Fraser MacDonald, Scotland; Wilfrid M'Farlane, Scotland; ‖David Robertson MacGregor, B.Sc., Scotland; Neil Fletcher MacHardy, Scotland; Isabel Nivison M'Keand, Scotland; Samuel Walker Maclean, Ireland; Evan Macmillan, Scotland; Robert Patrick M'Neil, Scotland; George M'Neill, Scotland; William Edward Marshall, Scotland; John Kennedy Matheson, Scotland; ‖Paul Mathews, England; Robert John Mayberry, Ireland; Edmond Langley Meynell, England; William Stuart Milne, India; Richard Caldecott Monnington, England; John Howard Montgomery, Ireland; Stuart Alexander Moore, B.A., New Zealand; John Morrison, Ireland; Philip Henry Mules, New Zealand; Ronald Stuart Munro, England; Donald Norman Watson Murray, New Zealand; Charles Nelson, Scotland; William Newlands, New Zealand; Frank O'Neill, Ireland; ‖Thomas Henry Osler, South Africa; Harry Overy, England; Sophie Palmer, England; Anthony Scott Parker, England; James Hunter Harvey Pirie, B.Sc., Scotland; John Politachi, England; Edward John Porteous, Scotland; William Guthrie Porter, B.Sc., Scotland; Evan Christopher Prichard, Wales; Agnes Melville Pringle, Scotland; Andrea Francis Honeyman Rabagliati, England; Jan Abraham Raubenheimer, Cape Colony; John Joseph Redhead, Venezuela; Antonio Baptista dos Remedios, Portuguese India; Henry Howard Robarts, England; James Stewart Eadie Robertson, England; Andrew Beaconsfield Ross, M.A., Scotland; ‖Thomas William Edmonston Ross, Scotland; Andrew James Rowan, Cape Colony; David Sandler, Russia; ‖James Scott Sewell, England; Alexander M'Gregor Sharp, M.A., Scotland; Charles John Shaw, Scotland; George Duncan Sloan, England; Morton Warrack Smart, Scotland; William Francis Smeall, Scotland; James Martin Smith, Scotland; Henry Martyn Stumbles, England; David Sutherland, Scotland; Herbert Pank Thompson, England; Alexander Butchart MacArthur Thomson, Scotland; George Clark Trotter, Scotland; Philip Vickers, Jamaica; John Frederick van de Sandt de Villiers, South Africa; § Benjamin Philip Watson, Scotland; ‖ Allan George Waugh, Scotland; John Wier, Ireland; Ada Wilkinson, New Zealand; Mary Ruth Wilson, England; Samuel Alexander Kinnier Wilson, M.A., Scotland; Edward Ernest Wood, Cape Colony; and Robert Tannahill Young, M.A., Scotland.

§ Passed with first-class honours.
‖ Passed with second-class honours.

Special University Certificate in Diseases of Tropical Climates.—William Blackwood, M.B., Ch.B.; Thomas Francis Cavanagh, M.B., Ch.B.; Dugald Christie, F.R.C.P., L.R.C.S.; Joseph Eugene Horace Gentil, L.R.C.P. & S. (*in absentiâ*); Dwarka Prasad Goil, M.B., Ch.B.; Robert James Irving, B.Sc., M.B., C.M.; James Kirkwood, M.B., Ch.B.; Hubert Astley Knight, M.B., Ch.B.; Wilfred Edwyne Knight, M.B., Ch.B.; John Kennedy Mathieson, M.B., Ch.B.; John Hally Meikle, M.A., B.Sc., M.B., C.M.; William Stuart Milne, M.B., Ch.B.; William Newlands, M.B., Ch.B.; James Henry Paterson, M.B., C.M.; Antonio Baptista dos Remedios, M.B., Ch.B.; Frederick Stanley Rose, M.B., C.M.; James Scott, M.D., C.M.; and Elizabeth Thompson Selkirk, M.B., Ch.B.

The following prizes, fellowships, and scholarships have been awarded: Gunning Victoria Jubilee Prize in Practice of Physic, Frederick Gardiner, B.Sc., M.D., C.M.; Ettles Scholarship, Benjamin Philip Watson, M.B., Ch.B.; Allan Fellowship in Clinical Medicine and Clinical Surgery, Thomas Henry Osler, M.B., Ch.B.; Freeland Barbour Fellowship, David Robertson MacGregor, B.Sc., M.B., Ch.B.; Buchanan Scholarship in Gynæcology, Benjamin Philip Watson, M.B., Ch.B.; James Scott Scholarship in Midwifery, Robert Cranston Low, M.B., Ch.B.; Mouat Scholarship in Practice of Physic Christian Henry Bösenberg, M.B., Ch.B.; Stark Scholarship in Clinical Medicine, Thomas Bogie Hamilton, M.B., Ch.B.; M'Cosh Graduates' and Medical Bursaries, Charles Macfie Campbell, M.A., B.Sc., M.B., Ch.B.; Beaney Prize in Anatomy and Surgery, Sidney Gilford, M.B., Ch.B.; Pattison Prize in Clinical Surgery, Philip Anthony Harry; Dorothy Gilfillan Memorial Prize, Paula Theodora Copeland, M.B., Ch.B.; and Cameron Prize in Therapeutics, Major Ronald Ross, I.M.S., C.B., F.R.C.S., F.R.S., for his researches on the transmission of malaria by mosquitoes, &c.

The following is the official list of passes at the recent first, second, and third professional examinations in the Faculty of Medicine.

First Professional Examination.—J. H. Aikman, M.A., J. A. Alnscow, A. G. Anderson, M.A., B.Sc., D. W. Anderson, W. H. Armistead, Alfred Arthur, R. C. E. Atkinson, M.A., Aung Tun, B.A., C. F. Bainbridge, D. M. Barcroft, H. W. Binks, E. J. Black, Frank Blamire, J. D. Bowie, H. F. Briggs, Mary Brown, H. C. Buckley, D. S. Buist, *Edward Burnet, B.A., A. E. Chisholm, William Core, M.A., L. H. Cornelius, S. G. Corner, M.A., R. S. Cotter, R. G. Cunningham, J. A. Currell, J. S. Daniell, A. B. Darling, Jagonmohon Dass, Richard Davidson, Arnold Davies, A. J. Davin, J. T. Dickson, J. D. C. Duncan, D. D. Dunn, David Eakin, *J. S. Edwards, V. L. Evans, H. F. Fenton, J. G. Fleming, Robert Fraser, J. W. Frew, Michael Gavin, E. C. Girling, J. E. Gordon, W. L. Gordon, W. H. Gowans, *G. A. Grierson, *E. R. Grieveson, B.A., C. M. Hall, William Henderson, W. M. P. Henderson, M.A., A. S. Holden, J. M. C. Johnston, T. B. Johnston, *W. T. A. Jolly, J. T. G. Jones, J. O. Jones, J. H. Lamb, A. G. K. Ledger, S. B. Legge, Alfred Leitch, N. F. Lloyd, R. D. M'Allister, P. J. M'Ardle, John M'Cutcheon, Peter M'Dermid, John Macdonald, W. K. Macdonald, W. O. S. M'Gowan, G. B. Macgregor, J. D. M'Kelvie, Murdo Mackinnon, J. N. MacLaughlin, R. P. M'Morland, Kenneth M'Murtrie, J. M. MacPhail, K. W. D. Macrae, Paula Maier, J. S. Manson, C. Irvine Milne, C. James Milne, J. R. Mondon, H. J. More, M.A., John Morrison, Meher A. D. Naoroji, Joseph Newall, H. S. Nicolson, J. L. H. Paterson, J. S. Peebles, George Pollock, O. E. Powell, Austin Priestman, *Claude Pycroft, Edith G. Pycroft, W. G. Riley, John Ritchie, W. A. Robertson, M. J. Da Rocha, Alastair Rose, Z. M. H. Ross, A. C. Russell, Eustace Russell, W. O. Sclater, S. C. Sen, J. O. Shircore, Archibald Simpson, E. D. Simson, D. M. Smith, Harold Smith, R. S. Steuart, Harry Stokes, W. J. P. Sutherland, D. R. Taylor, B.A., J. A. Taylor, E. R. Thompson, H. H. Thorburn, J. N. Turnbull, E. W. Vaughan, A. G. Visser, G. F. C. Wallis, Martha B. Webb, H. C. Weber, W. O. Welply, F. P. Wernicke, W. C. Whiteside, C. H. Williams, C. R. Wills, E. D. Wilmot, Emily C. Wybourne, and *A. W. Young.

Second Professional Examination.—Mark Ashkenazie, Francis Baillie, D. W. Boswell, F. S. Brennan, Mary T. Cameron, T. F. Campbell, D. M. C. Church, M. L. Cohen, A. G. Cook, G. M. Coughtrey, T. E. Coulson, J. G. Craig, Robert Donaldson, M.A., G. T. Drummond, C. G. Edmondston, F. J. Elliot, C. L. Eyles, J. J. M. Falconer, G. H. L. Fitzwilliams, W. H. Forsyth, H. S. Gaskell, David Golding, Eleanor A. Gorrie, C. Rose Greenfield, E. J. Griffiths, J. H. Hume, Annie Jackson, John Jardine, G. P. Joy, Faiz Jung, C. A. Lawrence, A. G. Leitch, S. M. Livesey, A. P. G. Lorimer, D. R. C. MacArthur, William M'Conaghy, James Mackenzie, Inverness; Alexander MacRae, M.A., M. M. Mamourian, J. A. Mathers, G. D. Mathewson, H. P. Milligan, C. E. S. Mitchell, Venancio Moralejo, John Morris, A. W. Neill, Armand Pampelonne, W. J. Paterson, Bernard Pickering, A. O. P. Reynolds, Joseph Robinson, B.Sc., John Saffley, J. G. B. Shand, J. I. Shepherd, R. B. Smith, Alexander Stephen, M.A., F. H. Stewart, M.A., George Stewart, H. J. Stewart, J. R. Tannahill, R. S. Enever Todd, M.A.; V. S. Valiathan, Helen R. Vickers, R. H. Watt, J. D. Wells, W. F. J. Whitley, G. H. Winch, and Thomas Wright.

Third Professional Examination.—Farhat Ali, B.A., John Allan, G. C. Anderson, F. H. Borthwick, J. C. Boyd, W. F. Brayne, B.A., G. G. Cumming, Sam Cunliffe, G. A. Davies, J. R. Dobbin, C. E. Dumanoire, H. J. George, H. W. Gush, T. M. Guthrie, Philip Hallam, L. C. V. Hardwicke, J. O. Heyns, R. B. Hole, S. A. Johnston, Saiduzzafar Khan, F. E. Larkins, F. W. Lundie, J. W. M'Ewan, G. S. MacKay, William Mackenzie, B.Sc., Helen Morison, W. C. Morton, M.A., Ernest Muir, C. F. A. Oberländer, Claude O'Flaherty, T. C. E. Parry, Labbhu Ram, William Sanderson, C. F. T. Scott, Henry Speirs, D. W. Standley, Effie Stuart, J. P. du Toit, Louis Turiansky, Caroline Twigge, R. M. Walker, J. H. D. Webster, D. H. Wessels, George Wight, and W. Y. Woodburn.

* With distinction.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF EDINBURGH AND THE FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—At the July meetings of the

Scottish Conjoint Examining Board held in Glasgow the following candidates passed the respective examinations:—

First Examination.—William Hanna Clarke, Gavin Watson Hill, James Logan, James Beveridge Macgregor, and John Monerieff Muir, Anderson's College Medical School; William Robert Ellis, John Henry Morris Jones, and John M'Arthur (with distinction), St. Mungo's College, Glasgow; and Ernest Albert Hartland and Henry Ruddock Morehead, Queen's College, Cork.

Second Examination (five years' course).—Robert Crothers, Queen's College, Belfast; Ernest Albert Hartland, Queen's College, Cork; William M'Ilraith, William Noble Walker, and John Watt, Anderson's College; and John Roberts and John Hughes Roberts, St. Mungo's College.

Second Examination (four years' course).—Gilbert Elliot Aitken and Frank Hendry Rae, Edinburgh School.

Third Examination.—Mary Lucinda Calderwood, Edinburgh School; Katherine Mary Chapman, Queen Margaret College, Glasgow; Ian Campbell, James Robert Robertson and James Booth Paterson of St. Mungo's College; William Arthur Magill, Queen's College, Belfast; Samuel Robert Scott, Queen's College, Belfast, and St. Mungo's College; Cecil James Todd, Durham University School, Newcastle-on-Tyne.

Final Examination (and admitted licentiate of the three co-operating authorities). James Charles Galloway, Henry Rayner Helsby, Thomas Joseph M'Kaigney, Joseph Edward Mullan, Robert John Roberts, Peter Carruthers Watt, David Roberts Williams, and Andrew Young, St. Mungo's College; Michael David Ahern, Queen's College, Cork; Henry Doig (with distinction); John William Dougall, and Alfred Hardman Mountcastle, Anderson's College; Richard Hewson Hunter, Glasgow University and Anderson's College; James Cullen, Edinburgh University and Anderson's College; Richard Lewis, University College, Liverpool, and St. Mungo's College; Joseph Caton Shelmerdine, Glasgow University; Dora Elizabeth Lockwood and Constance Muriel Scott, London School of Medicine for Women; Raghunath Vithal Khedkar, Grant Medical College, Bombay; William Anderson, William Boyd, Queen's College, Belfast, and the Edinburgh School; Hamilton Marie Watson, Surgeon's Hall, Edinburgh; Albert Edward Griffith, Catholic University School, Dublin; and David Christie, Grant Medical College, Bombay, and St. Mungo's College.

A COMPLAINT AGAINST A PUBLIC VACCINATOR.—At a meeting of the Kingsbridge (Devon) board of guardians held on July 26th, a discussion took place with regard to the charges made against one of the public vaccinators of altering the ages of the children entered as vaccinated in his vaccination register, and thereby becoming entitled to extra fees. Reference has already been made to the subject in THE LANCET of July 12th, p. 119. The Local Government Board now stated that the explanation given by the public vaccinator did not appear to be satisfactory, and the guardians unanimously resolved to call upon him to resign his position of district medical officer and public vaccinator.

THE DEATH OF MR. P. H. SECKER.—The tragic death of Mr. P. H. Secker calls attention to the latent powers of danger in the compounding of even well-known drugs. It appears that Mr. Secker, a well-known veterinary surgeon of Boroughbridge, was engaged in the preparation of some horse powders containing as their chief constituents sulphur, chlorate of potash, and iron. From the evidence given at the inquest it would seem that these substances were being ground together in a mortar when a terrific explosion ensued which wrecked the room and resulted in the death of Mr. Secker. The cause of the explosion does not apparently need much investigation. Sulphur is ready enough to combine with oxygen, and chlorate of potash, rich in this element, provides the means for the sudden detonation which concussion in the mortar would bring about. To prevent a repetition of such an accident it is essential to remember that with mixtures of this character the ingredients should be ground separately and afterwards mixed, the mixture being effected with as little friction as possible.

LITERARY INTELLIGENCE.—Messrs. W. B. Saunders and Co., 9, Henrietta-street, Covent garden, announce for early publication a new treatise on diseases of the skin by Henry W. Stelwagon, clinical professor of dermatology in Jefferson Medical College and Women's Medical College, Philadelphia. The work will contain a large number of half-tone and coloured plates, with 1115 pages of text. A new volume in their Medical Hand Atlas series will also appear shortly, entitled "Abdominal Hernias," by Dr. George Sultan of Göttingen, edited, with additions by William B. Coley, M.D., clinical lecturer on surgery, Columbia University (College of Physicians and Surgeons), New York, and will comprise 277 pages of text with 119 illustrations, 36 of them in colour.—Messrs. J. & A. Churchill announce that an important change is to be made in the 1903 issue of the Medical Directory. Year by year the volume has, owing to the growth in numbers of the medical profession, become more and more bulky and the proportions of the book are to be altered by increasing the size of the page, thereby reducing the thickness of the book. In 1845 the volume was issued in post 12mo size; in 1861 it was enlarged to demy 8vo; in 1903 it will be published in royal 8vo (9½ by 6¼ inches). The change will, it is hoped, result in a much handier and more attractive-looking book.

INSTITUTE OF CHEMISTRY.—According to the pass list just issued by the council of the Institute of Chemistry of Great Britain and Ireland, in the intermediate examination for the Associateship 24 candidates presented themselves and 12 passed; in the Final Examination 25 candidates presented themselves and 12 passed. This is a somewhat high proportion of failures which would appear to be due to the inefficient training of the candidates who failed, the standard of examination remaining the same.

PRESENTATION TO A MEDICAL MAN.—On Friday evening, August 1st, at the patients' weekly dance, Mr. A. Rigden, who has been acting superintendent of the County Asylum, Bicton Heath near Shewsbury, for the past four months, was the recipient of a liqueur stand, which was presented by the nurses, male attendants, and members of the staff as a token of their esteem and as an indication of the pleasant memories which they associated with his tenure of office.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.—The annual general meeting of this society was held at the Hotel Cecil, London, on July 16th, Dr. Henry Ashby of Manchester, presiding. The following gentlemen were elected office-bearers for the ensuing session:—Council: Dr. Henry Ashby, Dr. Fletcher Beach, Mr. Herbert L. Carre-Smith, Dr. Edmund Cautley, Dr. Wayland C. Chaffey, Mr. Clinton T. Dent, Mr. Walter Edmunds, Dr. Leonard G. Guthrie, Dr. Robert Hutchison, Mr. Francis Jaffrey, Mr. T. Sinclair Kirk, Dr. David B. Lees, Dr. Charles J. Macalister, Dr. Lewis Marshall, Dr. Robert G. McKerron, Mr. Henry Betham Robinson, Dr. A. Ernest Sansom, Dr. George E. Shuttleworth, Mr. Harold J. Stiles, Dr. George A. Sutherland, Dr. James Taylor, Mr. Alfred H. Tubby, Mr. Richard H. A. Whitelocke, and Dr. William A. Wills. Honorary Treasurer: Mr. R. Clement Lucas. Honorary Secretaries: Mr. Sydney Stephenson, Dr. George Carpenter, and Dr. Theodore Fisher. After the meeting the members and their friends, to the number of 80, dined together. The honorary treasurer of the society, Mr. R. Clement Lucas, announced that Mr. C. Wightman, chairman of the Evelina Hospital, had generously placed the sum of £20 per annum at the disposal of the council for the purpose of furthering original work in children's diseases. A feature of the gathering, it may be noted, was the number of hospital governors present.

LEICESTER INFIRMARY.—The new surgical wing of Leicester Infirmary was formally opened by Mrs. T. Fielding Johnson on July 24th in presence of a numerous company. The accommodation thus provided consists of two operation theatres, anæsthetic room, a number of rooms and offices for the use of various officials and members of the medical staff, and a complete suite of rooms for casualty, surgical, and emergency cases; the basement contains the dispensary stores, laboratory, and heating and ventilating appliances. All the floors are either mosaic, marble terrazzo, or teak. The walls of the surgery, waiting hall, nurses' rooms, anæsthetic room, and corridors adjoining the theatres are tiled and have rounded angles. The whole of the remaining walls, excepting those of the theatres, are finished with Parian cement. The operation theatre walls are faced seven feet high with white veined statuary marble, having a dove-coloured marble border at the top and bottom. The theatres are each of them lighted from the north. The artificial lighting will be by electricity. The heating is partly by steam and partly by hot water coils. The operation theatres, nurses' sterilising and workroom, anæsthetic room, and emergency ward are all heated and ventilated by the "plenum" system. The cost was £12,000 and has been defrayed by a fund raised by the late Alderman Lennard in connexion with a scheme for commemorating the reign of her late Majesty Queen Victoria. The new buildings have therefore received the name of the Queen Victoria Memorial Wing. After the ceremony the Mayor and Mayoress entertained a large company at a garden

party in the grounds of the infirmary. On July 25th the Mayor (Alderman E. Wood) gave a dinner in the Museum Buildings to the honorary medical staff of the infirmary and the medical profession of the town. The Mayor proposed the toast of "The Medical Profession" in a very complimentary speech which was replied to by Dr. C. H. Marriott and Dr. F. M. Pope.

DONATIONS AND BEQUESTS.—The treasurers of the Middlesex Hospital have received from an anonymous donor, per Mr. A. Pearce Gould, the sum of £100 to the fund of developing the work of the cancer research department of that hospital.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN.—At a meeting of the council of the Pharmaceutical Society of Great Britain, held at 17, Bloomsbury-square, on August 6th, Dr. William Palmer Wynne, F.R.S., assistant professor of chemistry in the Royal College of Science, South Kensington, was appointed to the Chair of Chemistry in the School of Pharmacy of the Pharmaceutical Society of Great Britain, in succession to Dr. J. Norman Collie, F.R.S., who was recently appointed to the Chair of Organic Chemistry in University College, London.

BOARDS OF GUARDIANS AND VACCINATION.—At a meeting of the St. Germans (Cornwall) board of guardians held on July 31st a letter was read which had been received from the Local Government Board in answer to certain questions asked by the guardians. As mentioned in THE LANCET of July 12th, p. 119, the guardians had inquired whether the public vaccinator might accept fees which the individuals vaccinated offered to pay him; and also whether the public vaccinator had power to insist upon persons going to his surgery for revaccination purposes. The Local Government Board stated that there was nothing to prevent a public vaccinator performing, in his private capacity, vaccination or revaccination on persons at their own expense, but in such cases the lymph supplied by the Board must not be used. The Local Government Board also said that no action on the part of the guardians would be regarded as proper that would have the effect of suggesting to the public that vaccination and revaccination were not free to all residents irrespectively of social position. In conclusion, the communication added that the public vaccinator was to attend at the homes of persons for the purposes of revaccination if so requested, or if not so requested the operation could be performed at his surgery or at such other place as might be arranged by him with the person so applying. A considerable discussion took place on the matter and it was considered that the communication would be of interest to many boards of guardians, the chairman remarking that it was plain that the Government encouraged vaccination to the greatest possible extent, that it was to be conducted quite irrespectively of social station, and that boards of guardians could not take any action against persons who did not pay for the operation.—At a meeting of the Torrington board of guardians held on July 26th a discussion arose relative to a communication which had been received from the conference of the metropolitan boards of guardians urging the reduction of the vaccination fees. The chairman said that the public vaccinator in many cases received a penny a mile for his journey and if he went over five miles to vaccinate a child he received 2*s.* 6*d.* which certainly could not be regarded as very much. One of the guardians said that the Vaccination Act was a bad one as vaccination used to cost the union about £24 per annum whereas it was now about £70 per annum. The board eventually decided to take no action in the matter.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Midwives Bill.

THE Midwives Bill received the Royal Assent by Commission on Thursday, July 31st.

HOUSE OF COMMONS.

WEDNESDAY, JULY 30TH.

Vaccination Prosecutions.

Mr. GEORGE WHITE asked the Home Secretary whether his attention had been called to the case of Sydney Ed. Pratt, who, on Monday, July 21st, was prosecuted before the bench at Grimston, Norfolk, for failing to have his child vaccinated, and fined 10*s.* and 12*s.* 6*d.* costs, though he had on two occasions appeared before the same bench asking for a certificate of exemption on conscientious grounds; and would he say whether he was prepared to promote legislation to deal with such cases.—Mr. RITCHIE replied: If, as would appear from the question, the defendant had not established his claim to a certificate of exemption, it is not clear on what grounds it can be suggested that the conviction was wrong, or that any action on my part is called for.

Equipment of Military Hospitals in India.

Mr. WEIR asked the Secretary of State for India whether arrangements had yet been made to withdraw from the military hospitals in India surgical instruments fitted with wooden handles and to supersede them by instruments with metal handles and of modern type.—Lord GEORGE HAMILTON replied: The whole question of the provision of aseptic instruments and appliances for military hospitals in India is now under the consideration of the Government of India. The steps to be taken in the matter will be reported as soon as possible.

Sale of Opium in Burma.

Mr. HENRY J. WILSON asked the Secretary of State for India whether he could lay upon the table the draft of the new opium scheme for Burma, of which particulars had appeared in India and which had been under consideration for some time past; also what means were being taken to ascertain Burman opinion on the new scheme, and whether it was calculated to lessen the evils produced by opium consumption in Burma, as set forth by Chief Commissioners Sir Charles N. Aitchison and Sir Alexander Mackenzie.—Lord GEORGE HAMILTON replied: I have not as yet received a copy of the regulations for giving effect to the revised arrangements for the licensed sale of opium in Burma which I have sanctioned with the object of suppressing smuggling and checking illicit consumption. These arrangements were the result of careful and prolonged inquiries on the part of the Government of Burma, and I have every reason to think that due account was taken of the wishes and habits of the people.

THURSDAY, JULY 31ST.

Lead Poisoning in the Pottery Trade.

Sir CHARLES DILKE asked the Home Secretary if he would state whether the scheme of workmen's compensation in cases of lead poisoning communicated by the employers to the workers was a complete scheme intended to fulfil the promises made during the recent arbitration on the special rules, or if there were other portions of the scheme not made public; and would he state if the scheme extended to the whole pottery trade in all parts of the United Kingdom.—Mr. RITCHIE replied: I do not know what statement with regard to the scheme has been made public. I have received copies of the memorandum and articles of association of the company which pottery manufacturers have formed in connexion with the scheme and of its rules and regulations. These documents appear to me to contain a complete scheme for compensation to workpeople in potteries who may be suspended from work on account of lead poisoning. The scheme is of course voluntary on the part of the manufacturers and there is no power to make it compulsory. But it is open to all pottery manufacturers to join and more than 100 firms, including nearly all the leading potters in North Staffordshire, have already become members. I think that the best results may be expected from the action which the manufacturers have thus taken.—Sir CHARLES DILKE asked the Home Secretary if he could state who tested for the Home Office samples of glaze when application was made by manufacturers of china and earthenware for various exemptions from certain of the special rules; how many such samples had been tested since the new special rules came into force, and what arrangements were made for testing samples taken from time to time from firms working under such exemptions.—Mr. RITCHIE said: The present arrangement is that samples of glaze, whether formally submitted by manufacturers or taken by the inspectors, are referred to the Government Laboratory for examination as to insolubility or absence of lead. So far there are only 19 firms under the exemptions which depend on the question of lead, the earliest dating from April 5th and the latest from July 25th. Of these, 16 relate to leadless glazes, 2 to the 5 per cent. standard of lead, and 1 to the 2 per cent. standard. Few samples have yet been taken, but the inspectors will have instructions to take them from time to time in such a way as to test the observance of the rules.

Pure Water for Soldiers on Active Service.

Sir MICHAEL FOSTER asked the Secretary of State for War whether with a view of preventing the danger arising from enteric fever or other water-borne diseases in war, he would consider the advisability of establishing on a permanent basis some such scheme as that which was under favourable consideration, in respect to the late war in South Africa, by which the soldier in the field was to be provided with approved or safe water or other liquids.—Mr. BRODRICK replied: Experiments will be made on the first opportunity with improved watercarts designed for bringing clarified water to places appointed for its sterilisation. Different methods of sterilising water by heat, filtration, or chemical means are under consideration. The scheme has not yet been sufficiently tested to justify its establishment on a permanent basis.

Cancer in India.

Mr. WEIR asked the Secretary of State for India whether he had yet been able to procure information in regard to the prevalence of cancer in India with a view to the preparation of statistics on the subject.—Lord GEORGE HAMILTON replied: I am awaiting an answer from the Government of India to a letter I addressed to them on the subject in May last. Some time will probably elapse before they will be in a position to reply.

Poor-law Medical Officers in Ireland and their Holidays.

This question was discussed in connexion with the Committee stage of the Local Government (Ireland) No. 2 Bill. On the motion of Mr.

WYNDHAM an amendment was made in Clause 3 of the Bill providing that the salary paid to a substitute during the vacation of a medical officer shall not establish any claim for compensation.—Mr. TULLY moved an amendment to provide that the Government contribution to the salary of a substitute shall be paid not only when the medical officer is on holiday, but also when he is absent through sickness or other circumstances beyond his control.—Mr. WYNDHAM opposed this amendment, holding that the proposed expenditure of public money could not be justified.—Mr. MACARTNEY supported the amendment and appealed to the Chief Secretary to accept it.—Mr. WYNDHAM said that he was sorry to seem obdurate but he would undertake to look very closely into the Local Taxation Account in the autumn and see what could be done in this connexion. The amendment was pressed to a division and defeated by 122 against 86 votes.

MONDAY, AUGUST 4TH.

Underground Workshops in Scotland.

Mr. WEIR asked the Home Secretary whether his attention had been called to a circular issued by the Scottish Operative Tailors' and Tailoresses' Association relative to the effects to health arising from employment in pit or underground workshops in Scotland; and would he say what action he proposed to take in the matter.—Mr. RITCHIE replied: The honourable Member has kindly sent me a copy of the circular referred to in his question. It is a paper which was apparently printed two years ago, but which was not communicated either to the Home Office or to the factory inspectors. Since that time the law with regard to insanitary workshops has been considerably strengthened by the Factory Act of last session, and I am informed that several underground workshops in Glasgow have been closed during the last two years. I am not prepared at the present time to propose any further amendment of the law; but if any cases of underground workshops which cause injury to health are brought to the notice of the inspectors of factories they will do their best to deal with them under their existing powers or to put the local authorities in motion.

The Royal Army Medical Corps.

Dr. FARQUHARSON asked the Secretary of State for War whether the augmentation of the number of medical officers on the list of Colonels Royal Army Medical Corps notified in the War Office Gazettes of June 13th and July 22nd, 1902, was the augmentation which was provided for in the Estimates passed by the House of Commons in April and May, 1900; and, seeing that the delay in carrying out the augmentation unfavourably affected the position of some officers on the list of Colonels Royal Army Medical Corps, would he take steps to rectify the same.—Mr. BRODRICK replied: The reply is in the negative. The increase of colonels in Estimates 1900–1901 was due to the necessity for providing for two supernumerary officers. The recent appointments were due to the augmentation in connexion with the Army Corps scheme.

BOOKS, ETC., RECEIVED.

DUCKWORTH AND CO., 3, Henrietta-street, W.C.

European Fungus Flora: Agaricaceæ. By George Massee, F.L.S., Principal Assistant (Cryptogams), Royal Botanic Gardens, Kew. Price 6s.

HOEPLI, ULRICO, Milan.

Farmacoterapia, con Formulario. Del Dott. P. Piccinini. Price L3.50.

LONGMANS, GREEN, AND CO., 39, Paternoster-row, E.C. (Published for the University Press of Liverpool).

Liverpool School of Tropical Medicine. Memoir VII. Report of the Yellow Fever Expedition to Pará of the Liverpool School of Tropical Medicine and Medical Parasitology. By H. E. Durham. Price 7s. 6d.

SHERRATT AND HUGHES, 27, St. Ann-street, Manchester.

The Purin Bodies of Food Stuffs, their Estimation, Action, and Significance. By I. Walker Hall, M.D., Assistant Lecturer and Demonstrator in Pathology, the Owens College. Price 2s.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.

BAGSHAWE, ARTHUR G., M.B. Cantab., has been appointed Medical Officer to the Anglo-German Boundary Commission, Uganda Protectorate.

COAKER, F. W. J., F.R.C.S. Eng., L.R.C.P. Lond., has been appointed Medical Officer of Health for Bromsgrove Rural District, Worcestershire.

DARBYSHIRE, DOUGLAS E., M.B., Ch.B. Vict. Univ., has been appointed Special Medical Officer to the Central Board of Health, Perth, Western Australia.

DUNCAN, S. V., M.R.C.S., L.R.C.P. Lond., has been appointed Officer of Health, Kookynie, Western Australia.

EDWARDS, ARTHUR SPENCER, M.B., C.M. Edin., has been appointed Medical Officer of Halling District of Strood Union and Public Vaccinator for the same District.

ETTLES, W. J. M., M.D. Aberd., has been appointed Medical Officer of Health for District No. 11 of the London County Council in room of the late Mr. Cotman.

EWBANK, W. W., M.R.C.S., has been appointed Honorary Medical Officer to the Queen's Home Maternity, Adelaide, South Australia.

FISHER, CHARLES, M.B., B.S. Durham, M.R.C.S., L.R.C.P., has been appointed Deputy Poor-law Medical Officer and Public Vaccinator to the Albury District of the Guildford Union.

FORSYTH, CHARLES E. P., M.B., Ch.B., late Assistant Medical Officer, Hospitals' Service, Metropolitan Asylum's Board, has been appointed a Plague Medical Officer for the Punjab, India.

GOODMAN, GODFREY, L.R.C.P., L.R.C.S. Irel., Diploma of State Medicine, Ireland, has been re-appointed Medical Officer of Health for Glanford Brigg Rural District, Lincolnshire.

GUNSON, J. B., M.R.C.S., has been appointed Honorary Medical Officer to the Queen's Home Maternity, Adelaide, South Australia.

HAMILTON, J. A. G., M.B. Dubl., has been appointed Honorary Medical Officer to the Queen's Home Maternity, Adelaide, South Australia.

HICKINBOTHAM, J. R., M.B. Lond., has been appointed District Medical Officer at Carnarvon, Public Vaccinator for the Urban and Suburban Districts of Carnarvon and the Rural District of Gascoyne, and Quarantine Officer for the Port of Carnarvon, Western Australia, vice D. E. Darbyshire, resigned.

HOWIE, P., M.B., C.M. Aberd., has been appointed Medical Officer to the Aberdeen Dispensary.

JAY, M., M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Medical Officer to the Queen's Home Maternity, Adelaide, South Australia.

LENDON, A. A., M.D. Lond., has been appointed Honorary Medical Officer to the Queen's Home Maternity, Adelaide, South Australia.

MACKENZIE, W. S., L.R.C.P., L.R.C.S. Edin., has been re-appointed Medical Officer of Health for Normanton Urban District, Yorkshire.

MARTEN, R. H., M.B., B.S. Cantab., has been appointed Honorary Medical Officer to the Queen's Home Maternity, Adelaide, South Australia.

MARTIN, ERNEST W., M.B., Ch.B., has been appointed Assistant Physician to the Sanatorium, Crooksbury Ridges, near Farnham, Surrey.

MEGGS, T. HUGH B., M.R.C.S., L.R.C.P., has been appointed Public Vaccinator of the Slough District, Eton Union, vice Mr. John Brickwell.

MONRO-HOME, G. H., M.D. Edin., has been appointed Honorary Anæsthetist to the David Lewis Northern Hospital, Liverpool.

NICHOLSON, E., M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer of Health to the Urban District Council of Fenny Stratford.

SWEENY, WILLIAM JAMES, M.B., B.Ch., B.A.O. (Royal University, Ireland), has been appointed Deputy Medical Officer for the Hornby District and Workhouse (Gloucestershire).

VALENTINE, W. A., M.D., B.Ch. Univ. Dubl. Trin. Col., has been appointed Surgeon and Agent of Sick Quarters, under the Admiralty at Appledore, Devon, vice Mr. A. E. Mahood.

WHITE, A. T., L.R.C.P. & S. Edin., has been appointed Medical Officer of Health at Fremantle, Western Australia, during the absence on leave of Mr. J. W. Hope.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL.—House Surgeon for eight months. Salary at rate of £70 per annum.

BRISTOL ROYAL INFIRMARY.—Junior House Surgeon and Anæsthetist, also Casualty Officer, both for six months. Salaries at rate of £50 per annum, with board, lodging, and washing.

BURY INFIRMARY.—Junior House Surgeon. Salary £90, with board, residence, and attendance.

CANCER HOSPITAL, London.—Pathologist. Salary £250 per annum.

CANCER RESEARCH FUND, Examination Hall, Victoria Embankment, London, W.C.—General Superintendent.

CORNWALL COUNTY ASYLUM, Bodmin.—Junior Assistant Medical Officer, unmarried. Salary £130, rising to £160 by annual increments of £10, with board, furnished apartments, laundry, &c.

DUNDEE SANATORIUM FOR CONSUMPTION.—Medical Superintendent. Salary £250 per annum.

EDINBURGH VICTORIA HOSPITAL FOR CONSUMPTION.—Resident Physician for six months. Residence, board, and washing, with nominal honorarium.

GRAVESEND HOSPITAL.—House Surgeon. Salary £90 per annum, with board and residence.

HALIFAX UNION POOR-LAW HOSPITAL.—Resident Medical Officer for Hospital at Salterhebble, Halifax. Salary £130 per annum as Resident Medical Officer, and £30 per annum for Dispensing, making a gross salary of £160 per annum, with apartments, rations, and washing.

HITCHIN THREE COUNTIES ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £150 per annum, with board, apartments, washing, and attendance.

HUNTINGDON COUNTY HOSPITAL.—House Surgeon. Salary at rate of £50 or £60 per annum, with board and lodging.

JENNER INSTITUTE OF PREVENTIVE MEDICINE, Aldenham, Herts.—Assistant Bacteriologist, unmarried. Salary £200, with furnished rooms.

LANARK MIDDLE WARD ISOLATION HOSPITAL.—Resident Physician. Salary £140 per annum, with board, &c.

LIVERPOOL DISPENSARIES.—Assistant Surgeon, unmarried. Salary £100 per annum, with board and apartments.

LIVERPOOL STANLEY HOSPITAL.—Third House Surgeon. Salary £70 annum, with board residence.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—House Surgeon. Salary £100 per annum, with board and residence.

NORTHAMPTON ST. ANDREW'S HOSPITAL FOR MENTAL DISEASES.—Junior Assistant Medical Officer, unmarried. Salary £200 per annum, with board, apartments, and washing.

NOTTINGHAM GENERAL DISPENSARY.—Senior Resident Surgeon, unmarried. Salary £200 per annum, increasing by £15 every year, with apartments, attendance, light, and fuel.

ROXBURGH DISTRICT ASYLUM, Melrose, N.B.—Assistant Medical Officer. Salary £120 per annum, with board, rooms, and washing.

ROYAL ALBERT HOSPITAL, Devonport.—Assistant House Surgeon for six months. Salary at the rate of £50 per annum, with board, lodging, and washing.

ROYAL DEVON AND EXETER HOSPITAL, Exeter.—Junior Assistant House Surgeon for six months. Salary at the rate of £70 per annum, with board, lodging, and washing (no stimulants).

ROYAL FREE HOSPITAL, Gray's-inn-road, London, W.C.—Physician for Diseases of Women, with charge of In-patients; also Assistant Physician for Diseases of Women, with charge of Out-patients.

SOUTHPORT INFIRMARY.—Resident Junior House and Visiting Surgeon, unmarried. Honorarium at the rate of £60 per annum, with residence, board, and washing.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and washing.

STOCKPORT INFIRMARY.—Junior Assistant House Surgeon for six months. Salary at rate of £40 per annum, with board, washing, and residence.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Junior House Surgeon. Salary £50 per annum, with board, lodging, washing, and attendance.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Assistant House Surgeon. Also Assistant House Physician. Appointment for six months, with honorarium at rate of £75 per annum, board, lodging, and washing.

Births, Marriages, and Deaths.

BIRTHS.

BRYCE.—On August 4th, at Stroud-green-road, N., the wife of John Richmond Bryce, M.D. Glasg., D.P.H., of the Inner Temple, barrister-at-law, of a daughter.

COOPER.—The wife of Charles E. Cooper, M.B., Ivybridge, South Devon, of a son.

CROOKSHANK.—On August 4th, at The Terrace, Barnes, S.W., the wife of F. Graham Crookshank, M.D. Lond., of a son.

METCALFE.—On August 2nd, at 2, St. Leonard's, York, the wife of A. W. Metcalfe, of a son.

PAYNE.—On August 2nd, at Vesta-road, Brockley, S.E., the wife of William Henry Payne, M.R.C.S., L.R.C.P. Lond. (née Allison), of a son.

MARRIAGES.

GARNER—STAGG.—On July 31st, at St. Paul's Church, East Molesey, Surrey, William Langham Garner, B.A., M.B., B.C. Cantab., to Helen Mary Cowley, eldest daughter of the late William Stagg, of Motherby, Cumberland.

MUDGE—TREVENA.—On August 6th, at St. Elwyn's Church, Hayle, by the Rev. Parsons Berry, vicar, Zachary Belling Mudge, M.R.C.S. and L.R.C.P. (Lond.), youngest son of the late James Mudge of Bonaer, Hayle, to Florence Emma, youngest daughter of W. H. Trevena, White Hart Hotel, Hayle.

ROCK—SIMMONDS.—On July 31st, at St. Mary Abbot's, Kensington, Frank Ernest Rock, M.D. Lond., to Alice Maud Simmonds, youngest daughter of the late S. Simmonds, of Larkhall-rise, Clapham.

SMITH—MCNAIR.—On the 5th inst., at Melrose, E. Stanley Smith, M.D., of 68, Wimpole-street, Cavendish-square, to Grace, daughter of Major J. F. A. McNair, C.M.G., R.A.

STEPHENS—SMIRTHWAITE.—On July 30th, at Holy Trinity Church, Burnley, John Harding Stephens, M.B. Vict., son of the late Henry Stephens of Knutsford, to Annie Maude, only daughter of the late Mr. S. V. Smirthwaite, M.R.C.S. Eng., L.R.C.P. Edin., of Coal Clough, Burnley.

DEATH.

CLEGHORN.—On June 11th, 1902, at Wanganui, New Zealand, George Cleghorn, M.D. Durh., M.R.C.S., L.S.A.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

MONEY-LENDERS' CIRCULARS.

ONE of our readers living in a distant county has sent us a plausible circular headed "Of Special Interest to Medical Men" and signed by Messrs. Harold and Co., of 3, Holles-street, Cavendish-square, London, W. We strongly advise all our readers against entering into correspondence with advertising money-lenders or having any dealings with them of any kind. Medical men as a class are proverbially neglectful of their financial interests—a habit of mind which is due partly to the nature of their education and early training, partly to the fact that a certain amount of gratuitous work is inseparable from medical practice, and partly to the exceptional nature of the services which they are called upon to render—exceptional because it is the needs of the patient which have to be considered first and not his ability to remunerate his adviser. It is, therefore, our duty to state that for a medical man who wishes a temporary increase of capital, or is pressed by a creditor, or is otherwise in want of money, nothing is more likely to lead to disaster than accepting the overtures of an advertising money-lender. The proceedings of many of these gentry have occasioned such scandals and have been so often exposed in print that an Act of Parliament mainly for the protection of their victims was passed not long ago, but means can be found of evading some of its provisions, and, onerous though the contracts entered into by borrowers may be, the judges before whom such cases come for hearing are, as a matter of principle, very unwilling to cancel or modify them. The offer made in this circular of immediate cash advances "if you or your wife are in receipt of a fixed life income" and the prospect held out of obtaining such advances at 4 per cent. per annum are mere baits for the unwary. Perhaps in some few cases the promises of the circular might be fulfilled, but to disclose family affairs to a money-lender would be a most serious indiscretion, and borrowers possessed of good security could always obtain better terms from a solicitor or banker. Messrs. Harold have presumably been at their present address for something less than a year, as we do not observe the name of the firm in the London Directory for 1902.

A RECORD MEDICAL MAYOR.

UNDER the heading of "Another Mayoral Record," the *Westminster Gazette* of July 31st says: "Another interesting mayoral record is that of Mr. Alderman Nicholas Watson Fairles-Humphreys, J.P., Mayor of Montgomery. He was elected alderman the year of the incorporation of the borough of Montgomery, 1885; was mayor the two years of her late Majesty's Jubilees, 1887 and 1897; was elected mayor for the sixth time in 1901 for the Coronation year. Mr. Fairles-Humphrey's grandfather, Mr. Nicholas Fairles, J.P., by the way, was the originator of the lifeboat movement and chairman of the first committee." The *Westminster Gazette* should have added that Mr. Alderman Fairles-Humphreys is a retired medical practitioner who was admitted a Member of the Royal College of Surgeons of England in 1864.

DIFFICULTIES UNDER THE INFECTIOUS DISEASE (NOTIFICATION) ACT.

To the Editors of THE LANCET.

SIRS,—It has recently come to my knowledge that in the metropolitan borough where I reside it is the practice of the medical officer of health to visit, without any communication whatever with the medical man in attendance, all cases of adults notified as suffering from chicken-pox, and for the sanitary inspectors to visit and to inspect the arms of patients notified as suffering from chicken-pox for the purpose of seeing if vaccination has been performed or not. I should like to hear if these proceedings are general in the metropolis and agreeable to the medical profession.

I am, Sirs, yours faithfully,

August 2nd, 1902. S. W.

POINTS UNDER THE WORKMEN'S COMPENSATION ACT.

To the Editors of THE LANCET.

SIRS,—I wish to inquire about a few cases which have been under my care recently in which the Employers' Liability Act possibly has some bearing. 1. Agricultural labourer under my care for kick in abdomen by a horse. The employer disclaims all responsibility for medical fee. I furnished him with a certificate for insurance company. The patient is a member of Oddfellows club of which I am medical attendant. The case was a long and trying one, ending in complete recovery. Have I any claim on the employer? 2. Agricultural labourer. Crushed foot, result of wheel of cart passing over it. This man is a private patient. Am I to charge him according to his means or is the employer responsible for medical attendance? 3. Now under treatment. Agricultural labourer suffering from injury to foot by crush from a wheel. I had to amputate one of the toes and remove splintered heads of metatarsal. Foot otherwise wounded and contused. In this case I had to summon a friend in practice five miles off to give anæsthetics. This man is also an Oddfellow in the local club.

Who is responsible for my fee? If I am to expect my fee from patient himself I shall only charge out-of-pocket expenses. If the employer is responsible I shall charge for my work. This case does not come under my duties as surgeon to the club. 4. Roadmaker employed by district council, suffering from internal derangement of the knee-joint from a slight twist loosening the cartilage of it. This man is an Oddfellow also. Who is responsible for his medical treatment? I have written inquiring about these cases as they are constantly occurring and I scarcely know my position.

I am, Sirs, yours faithfully,

August 3rd, 1902. QUERY.

*** The medical man must in all cases look to the patient for his fee unless any other person or persons may have rendered themselves liable to pay it either by undertaking to do so or otherwise. Where a workman has a claim for compensation upon his employer it is for him to sue the employer, obtaining from him the expenses to which he has been put for medical attendance should the employer owing to the circumstances of the case be liable to pay these. In the first three cases mentioned by our correspondent the liability, if any, of the employer arises apparently under the Workmen's Compensation Act, which only provides for payment to injured workmen of an amount assessed in accordance with the amount of wages lost through the injury, and makes no provision for medical expenses except where death has ensued. With regard to Case 1, "Where a workman has given notice of an accident he shall, if so required by the employer, submit himself for examination by a duly qualified medical practitioner provided and paid by the employer" (Workmen's Compensation Act, 1897, Sched. I. (3)), but the statement of our correspondent is too indefinite for us to say if this has taken place in the instance described. We do not see that in Cases 1, 2, or 3 the Workmen's Compensation Act affects his position, while the Employers' Liability Act does not apparently apply to them. The last-named Act may apply to Case 4, in which the nature of the accident is not given; if it applied its effect would be to enable the injured man to recover from his employers in respect of the expense actually incurred by him for medical attendance. The question of liability, in so far as it affects the patient and his club, is one to be decided between the patient, the club, and the medical practitioner according to the terms, if any, arranged between them to meet such cases. There are many legal works on employers' liability and workmen's compensation, ranging from that by Mr. Minton Senhouse (published by Sweet and Maxwell, Limited, at 25s., including both Employers' Liability Act and the Workmen's Compensation Act) to smaller volumes, such as that by Mr. W. A. Willis (dealing with the Workmen's Compensation Act and published by Messrs. Butterworth and Messrs. Shaw and Sons, at 2s. 6d.), and there are other more "popular" guides as well. Perhaps our correspondent would find one of these useful.—ED. L.

FEES UNDER THE NOTIFICATION ACT.

To the Editors of THE LANCET.

SIRS,—Would you kindly enlighten me through your correspondence columns in THE LANCET on the following. The authorities of this city are talking of refusing to pay me my fees for the cases of enteric fever which have been admitted into this hospital. They say I am not entitled to any fees and that I need not notify the cases at all as they have been notified by the medical men who sent them in. Could you inform me if there is any law on the subject? They have paid me always up to the present. Thanking you in anticipation.

I am, Sirs, yours faithfully,

August 5th, 1902. HOUSE SURGEON.

*** The law is laid down in the Infectious Diseases Notification Act, 1889, Section 3, Clause 1 (b): "Every medical practitioner attending on or called in to visit the patient shall forthwith, on becoming aware that the patient is suffering from an infectious disease to which this Act applies, send to the medical officer of health for the district a certificate .. ...." "House surgeon" is therefore bound to certify and the local authority is also bound by Section 4, Clause 2, to pay him a fee of 1s. (the cases occurring in his practice as medical officer of a parish institution) for each certificate duly sent by him in accordance with the Act.—ED. L.

CADMAN'S PATENT "SAFETY" AIR-SHAFT COVERINGS.

WE have received a pamphlet descriptive of a patent covering for the air-shaft of a house drain. Instead of the usual wire case it consists of a beehive-shaped iron cover which is perforated with holes. The inventor, Mr. Cadman, was led to think out his invention by seeing a bird fly out from an air-shaft. Upon investigation he found another bird sitting on a nest of eggs and the remains of several old nests. It would be an interesting research to find out what effect, if any, is produced upon birds by being brought up in an atmosphere of presumably sewer gas. Be this as it may, Mr. Cadman's cover would seem to be well adapted for keeping an air-shaft free. The manufacturers are Messrs. Thomas Holcroft and Sons, Limited, Wolverhampton.

HOMICIDAL MANIA IN A NURSE.

AN editorial article in the July number of the *Maryland Medical Journal* comments unfavourably on the system of recording deaths and authorising funerals in the United States, saying that "in perhaps a majority of instances the records of death do not contain the name of any individual who either witnessed the death or had certain knowledge that it occurred at the time or in the manner certified." These remarks were suggested by the case of a professional nurse, Jane Toppan, who was arrested some months ago on a charge of having killed a patient with poison. The grand jury found a true bill against her for the murder of three persons. She was suspected of having killed 11 persons At her trial at Barnstable, Massachusetts, last June or July she stated to Judge Bixby that she had killed during her professional career no less than 31 persons. She was found to be insane and will spend the rest of her life in the Taunton (Massachusetts) Hospital for the Insane. The nurse did not give a list of her victims, but no doubt was thrown upon her count of 31. In the summer of 1901 she caused the death of three people at one place. Morphia was the poison she used.

THE LAW FUND.

TRUSTEES: THE PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON, THE PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND, AND THE MASTER OF THE SOCIETY OF APOTHECARIES OF LONDON.

IT is proposed to hold a meeting of subscribers to this fund at an early date. In the meantime it is hoped that the subscriptions will continue to flow into the fund, as every gift to this fund is a protest against unjustifiable action being brought against members of the profession. Dr. Paramore, 2, Gordon-square, W.C., has received the following additional subscriptions and will gratefully acknowledge the receipt of all donations, however small. Cheques and postal orders should be made payable to the Law Fund and crossed "London and County Bank, London," and sent to Dr. Paramore with as little delay as possible.

	£	s.	d.
Dr. J. B. Nevins	0	10	6
Dr. John Ernest Nevins	0	10	6
Dr. John Cropper	1	1	0
Dr. John Mitchell Bruce	2	2	0
Dr. Henry Arthur Martin	1	1	0
Dr. Edward Carrigan ...	0	10	6
Dr. W. Combe Burns ...	0	5	0
Mr. S. E. Atkinson	0	5	0
Dr. F. W. Matheson, J.P.	0	10	6
Mr. G. J. McCoull	0	5	0
Mr. R. W. Cameron... ...	0	5	0
Dr. David Donald	1	1	0
Mr. G. H. Makins, C.B. ...	1	1	0
Dr. Theodore Duka	1	1	0
Dr. R. L. Batterbury ...	0	5	0
Dr. Josiah R. Jenkins ...	0	10	6
Mr. Charles Henry Miles	0	5	0
Dr. James Adam	1	0	0
Mr. Purnell Purnell ...	1	1	0
W. K.	0	10	6
Mr. Henry Stear	0	10	6

G. G. I.—We consider that C is wrong to return to a neighbourhood to practise in juxtaposition to A, seeing that he gained his introductions to the neighbourhood by acting as A's locum-tenent and assistant. We understand from a written statement that C does not deny that this is the manner in which he came to practise in the neighbourhood. That C was not bound by the usual bond was an oversight on the part of A which it must be unseemly for C to take advantage of. With regard to B, if he was definitely informed that A had no objection to his taking C into partnership there was nothing unprofessional in his opening negotiations. But when later he learned that A did object very strongly it is regrettable that he did not break off those negotiations. More than this we cannot say, as we do not know exactly what C has told B, but the matter is obviously one for arbitration.

E. A. D.—The regulations governing medical practice in America by gentlemen holding English qualifications vary in the different states. Our correspondent will find full information on this subject in THE LANCET, Sept. 5th, p. 665; Sept 12th, 1896, p. 769; and Oct. 3rd, p. 969, under the heading of "The Legality of British Qualifications Abroad."

Dr. W. Raine.—Two good books on the subject are (1) "Medical Nursing: Notes of Lectures given to the Probationers of the London Hospital," by the late James Anderson, M.D., F.R.C.P. (London, H. K. Lewis, 1894); and (2) "Lectures on Medicine to Nurses," by Herbert Cuff, M.D. Lond., F.R.C.S. (London, J. & A. Churchill, 1896).

ERRATUM.—In the report of the case of fracture of the tibia and fibula at the Seamen's Hospital, Funchal, Madeira, published in THE LANCET of June 28th, 1902, p. 1834, it should have been stated that the case was under the care of Dr. R. E. S. Krohn as well as under the care of Mr. J. Geddes Scott.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received:—*Broad Arrow, Popular Science Monthly, Midland Express, Army and Navy Gazette, Bristol Mercury, Madras Journal, Reading Mercury, Mining Journal, Hertfordshire Mercury, Daily Telegraph, Le Progrès Médical, Literary Digest, Gazzetta degli Ospedali e delle Cliniche, Deutsche Medicinische Wochenschrift, Journal of the American Medical Association, Yorkshire Mercury, Local Government Chronicle, Sanitary Record, Derbyshire Courier, Surrey Advertiser, Local Government Journal, Carpenter and Builder, Rotherham Express, Liverpool Daily Post, Journal of Tropical Medicine, Westminster Gazette, Tidsskrift for den Norske Lægeforening, &c.*

METEOROLOGICAL READINGS

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, August 7th 1902.

Date.		Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Aug.	1	30·16	N.E.		98	67	55	54	57	Overcast
"	2	30·0	W.	0·02	117	73	52	55	58	Hazy
"	3	29·85	W.	0·07	109	70	57	56	59	Cloudy
"	4	29·84	S.W	0·09	117	70	56	56	59	Raining
"	5	29·88	S.W.	0·25	110	73	56	59	62	Overcast
"	6	29·82	S.W.	0·31	87	68	60	61	62	Raining
"	7	29·70	S.W.	...	112	69	58	61	65	Cloudy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (11th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (12th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.).

WEDNESDAY (13th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (14th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (16th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (11th).—KING'S COLLEGE VACATION COURSE IN BACTERIOLOGY (Department of General Pathology and Bacteriology, King's College, London, W.C.).—10.30 A.M. to 1 P.M. Demonstrator: Dr. Willson. Lecture: Tubercle, Leprosy, and Glanders. Practical Work: Tubercle.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—4.30 P.M. Dr. H. J. Davis: Demonstration in Medical Wards.

TUESDAY (12th).—KING'S COLLEGE VACATION COURSE IN BACTERIOLOGY (Department of General Pathology and Bacteriology, King's College, London, W.C.).—10.30 A.M. to 1 P.M. Demonstrator: Dr. Willson. Lecture: Typhoid Fever. Practical Work: Typhoid, Agglutination Reaction.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Lecture:—Dr. H. J. Davis: Functional Heart Murmurs.

WEDNESDAY (13th).—KING'S COLLEGE VACATION COURSE IN BACTERIOLOGY (Department of General Pathology and Bacteriology, King's College, London, W.C.).—10.30 A.M. to 1 P.M. Demonstrator: Dr. Willson. Lecture: Diphtheria. Practical Work: Diphtheria.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Lecture:—Dr. E. A. Saunders: Examination of Gastric Contents.

THURSDAY (14th).—KING'S COLLEGE VACATION COURSE IN BACTERIOLOGY (Department of General Pathology and Bacteriology, King's College, London, W.C.).—10.30 A.M. to 1 P.M. Demonstrator: Dr. Willson. Lecture: Suppuration and Septic Diseases. Practical Work: Pyogenic Cocci.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—4.30 P.M. Mr. McAdam Eccles: Demonstration in Surgical Wards.

FRIDAY (15th).—KING'S COLLEGE VACATION COURSE IN BACTERIOLOGY (Department of General Pathology and Bacteriology, King's College, London, W.C.).—10.30 A.M. to 1 P.M. Demonstrator: Dr. Willson. Lecture: Pneumonia and Gonorrhœa. Practical Work: Pneumococcus and Gonococcus.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Lecture:—Dr. E. A. Saunders: Examination of Gastric Contents.

SATURDAY (16th).—KING'S COLLEGE VACATION COURSE IN BACTERIOLOGY (Department of General Pathology and Bacteriology, King's College, London, W.C.).—10.30 A.M. to 1 P.M. Demonstrator: Dr. Willson. Lecture: Tetanus and Malignant Œdema. Practical Work: Tetanus.

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. I. of 1902, which was completed with the issue of June 28th, and the Title-page to the Volume, were given in THE LANCET of July 5th.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1902 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half-year's numbers are now ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

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WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

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Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

Communications, Letters, &c., have been received from—

A.—Dr. S. H. Appleford, Lond.; Ayr District Asylum, Medical Superintendent of; Anderson's College Medical School, Glasgow, Secretary of; Dr. F. J. Allan, Lond.; Dr. Herbert Addierson, Lond.; An Old Subscriber.

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